CRPL-F201 PART A

FOR OFFICIAL USE

PART A

IONOSPHERIC DATA

ISSUED
MAY 1961

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

CRPL-F 201
PART A

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CONTENTS

SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, and continuing through December 1956, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1957, the symbols used are given in NBS Report 5033, "Summary of Changes in Ionospheric Vertical Soundings, Observing and Scaling Procedures - Effective 1 January 1957," which draws upon the First Report of the Special Committee on World-Wide Ionospheric Soundings (URSI/AGI), Brussels, Sept. 2, 1956. A list of these symbols is available upon request.

In the Second Report of the Special Committee on World-Wide Ionospheric Soundings of the URSI/AGI Committee, May 1957, a new descriptive letter was introduced:

M Measurement questionable because the ordinary and extraordinary components are not distinguishable.

There was an expansion in meaning of the following:

Z (1) (qualifying letter) Measurement deduced from the third magnetoionic component.
(2) (descriptive letter) Third magnetoionic component present.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given above.

a. For all ionospheric characteristics:

Values missing because of A, C, F, H, L, N or R are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F (and h'E near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of G are counted:

1. For foF2, as equal to or less than foF1.
2. For h'F2, as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic; the descriptive symbol D, only when it replaces a frequency characteristic.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

B for fEs is counted on the low side when there is a numerical value of a higher layer characteristic; otherwise it is omitted from the median count.

S for fEs is counted on the low side at night; during the day it is omitted from the median count (beginning with data for November 1957).

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with CRPL-F188, Part A, issued April 1960, the count is given for foF2 in the tables of medians. It is regretted that space limitations prevent including detailed counts for other characteristics.

To indicate further in a general manner the relative reliability of the data, for the F2 layer, h'F or foEs, if the count is from five to nine, or, for all layers, if more than half of the data used to compute the medians are doubtful (either doubtful or interpolated), the median is enclosed in parentheses. Medians are computed for less than five values for foF2 only.

Ordinarily, a blank space in the fEs or foEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h'F2 or h'F1, foF1, h'E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h'F1 and foF1 is usually the result of seasonal effects.

There is no indication on the graphs of the relative reliability of the observed data; it is necessary to consult the tables for such information.

The tables may contain median values of either foEs or fEs. The graph of median Es corresponds to the table. Percentage curves of fEs are estimated from values of foEs when necessary.

The latest available information follows concerning the smoothed observed Zürich numbers beginning with the minimum of April 1954. Final numbers are listed through June 1960.

Smoothed Observed Sunspot Number

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1954				3	4	4	5	7	8	8	9	12
1955	14	16	19	23	29	35	40	46	55	64	73	81
1956	89	98	109	119	127	137	146	150	151	156	160	164
1957	170	172	174	181	186	188	191	194	197	200	201	200
1958	199	201	201	197	191	187	185	185	184	182	181	180
1959	179	177	174	169	165	161	156	151	146	141	137	132
1960	129	125	122	120	117	114	108	102	97	93		
1961												

WORLD-WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 144 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Republica Argentina, Ministerio de Marina:
- Buenos Aires, Argentina
- Decepcion I.

Commonwealth of Australia, Ionospheric Prediction Service of the Commonwealth Observatory:
- Brisbane, Australia
- Canberra, Australia
- Townsville, Australia

Belgian Royal Meteorological Institute:
- Dourbes, Belgium

Escola Politecnica, University of Sao Paulo:
- Sao Paulo, Brazil

British Department of Scientific and Industrial Research, Radio Research Board:
- Ibadan, Nigeria (University College of Ibadan)
- Inverness, Scotland
- Port Lockroy
- Singapore, British Malaya

Defence Research Board, Canada:
- Churchill, Canada
- Ottawa, Canada
- Resolute Bay, Canada
- St. John's, Newfoundland
- Winnipeg, Canada

General Direction of Posts and Telegraphs, Helsinki, Finland:
- Nurmijarvi, Finland

The Finnish Academy of Sciences and Letters:
- Sodankyla, Finland

French National Center for Geophysical Studies:
- Garchy, France

French National Center for Telecommunications Studies:
Bangui, French Equatorial Africa
Dakar, French West Africa
Djibouti, French Somaliland
Poitiers, France
Rabat, Morocco
Tahiti, Society Is.
Tamanrasset, French West Africa
Tananarive, Madagascar

The Royal Netherlands Meteorological Institute:
De Bilt, Holland
Paramaribo, Surinam

Central Institute of Meteorology, Budapest, Hungary:
Budapest, Hungary

National Institute of Geophysics, City University, Rome, Italy:
Rome, Italy

Ministry of Postal Services, Radio Research Laboratories, Tokyo, Japan:
Akita, Japan
Tokyo (Kokubunji), Japan
Wakkanai, Japan
Yamagawa, Japan

General Directorate of Telecommunications, Mexico:
El Cerillo, Mexico

Norwegian Defence Research Establishment, Kjeller per Lillestrom, Norway:
Tromso, Norway

Institute of Terrestrial Magnetism, Ionosphere and Radio Propagation, Moscow, U.S.S.R.:
Moscow
Murmansk

South African Council for Scientific and Industrial Research:
Capetown, Union of South Africa

Research Institute of National Defence, Stockholm, Sweden:
Kiruna, Sweden
Lycksele, Sweden
Upsala, Sweden

Royal Board of Swedish Telegraphs, Radio Department, Stockholm, Sweden:
Lulea, Sweden

Post, Telephone and Telegraph Administration, Berne, Switzerland:
Sottens, Switzerland

United States Army Signal Corps:
Thule, Greenland
White Sands, New Mexico

National Bureau of Standards (Central Radio Propagation Laboratory):
Fairbanks (College), Alaska (Geophysical Institute of the University of Alaska)
Huancayo, Peru (Instituto Geofisico de Huancayo)
Talara, Peru (Instituto Geofisico de Huancayo)
Washington, D. C.

TABULATIONS OF ELECTRON DENSITY DATA

Reduction of hourly ionospheric vertical soundings to electron density profiles has become a part of the systematic ionospheric data program of the Central Radio Propagation Laboratory, National Bureau of Standards. Scalings of ionograms for this purpose are being provided by ionosphere stations operated by several stations associated with CRPL. For the present, the hourly profile data from one CRPL station, Puerto Rico, are appearing in the monthly CRPL-F Reports, Part A. The very considerable task of scaling the ionograms for this purpose is being undertaken by T. R. Gilliland, Engineer in Charge, Puerto Rico Ionosphere Sounding Station; the computations are performed at the NBS Boulder Laboratories by a group headed by J. W. Wright. Basic conversion of virtual to true heights uses the well-known matrix method developed by K. G. Budden of the Cavendish Laboratory, Cambridge University, programmed by Dr. H. H. Howe for a CDC-1604 computer.

The tabulations provide the following basic electron density profile data for each hour of each day of the month:

Quantity	Units	Remarks
Electron Density (N)	$x10^3$ = electrons/cm^3	Body of table; given at each 10 km of height.
NMAX	$x10^3$ = electrons/cm^3	Always the highest value of N at each hour. To maintain this rule, the electron density at the next 10 km increment above HMAX is always given as exactly equal to NMAX (unless HMAX coincides with a 10 km level).
QUALification	(Alphabetic)	A standard scaling letter qualifying the observation when necessary.
KP		The standard Kp magnetic index, to one digit.
HMIN	Kilometers	The height of zero or very low electron density, obtained by linear extrapolation of the electron density vs. height curve.
SCAT	Kilometers	One half of the half-thickness of the parabola best fitting the upper portion of the F region profile. Approximates the scale height near the level HMAX.
HMAX	Kilometers	The height of maximum electron density, determined by fitting a parabola to the upper portion of the profile.
SHMAX	$x10^{10}$ = electrons/cm^2 column.	Obtained by integration of the profile between the limits HMIN and HMAX.

Tabulations of the average electron densities each hour, at each 10 km level, for the quiet ionosphere, are also given. These averages include the profiles obtained when the magnetic character figure Kp is 4+ or less. The number of profiles entering the average for each hour is given by CNT. The other parameters of the layer, HMIN, SCAT, HMAX, SHMAX, and the mean value of Kp are given for each hour.

Before the averaging process, the individual profiles are extrapolated above HMAX by a Chapman distribution of 100 km scale height. This assumed model seems to agree well with the few published measurements dealing with the topside profile of the F-region.* Extrapolation is necessary in order to calculate homogeneous averages near HMAX and the average profiles are, in fact, given up to 950 km. Also given are the average estimated integrated electron densities to infinity, SHINF (same units as SHMAX); this is an approximation to the total electron content in a column of the ionosphere.

*See Wright, J. W. "A Model of the F-Region Above HMAX F2" J.Geophys.Res. V.65, pp. 185-191.

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 1 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	3	3	3	3	F3	2	2	2	1	1	A1	A1
HMIN	237	202	217	229	277	268	269	228	111	110		
SCAT	43.6	51.4	38.0	49.0	52.9	53.0	60.2	38.9	44.6	39.1		
HMAXF	321	293	282	320	391	375	381	306	272	270		
SHMAX	253	305	147	134	140	157	201	242	799	1087		
KM												
400					189							
390					189		257					
380					186	219	257					
370					181	218	254					
360					171	214	249					
350					159	206	239					
340					143	194	226					
330	446				125	178	211					
320	446			214	105	158	190					
310	439			211	84.0	135	164	477				
300	420	500		205	63.9	109	133	474				
290	389	500	310	193	45.9	79.9	96.7	456				
280	346	492	310	179	12.4	52.2	62.8	423	1215			
270	291	475	302	159		12.4	12.4	373	1215	1727		
260	215	449	283	133				305	1192	1700		
250	115	415	255	95.9				207	1139	1612		
240	38.7	356	211	54.7				99.5	1058	1481		
230		257	144	5.3				25.6	928	1281		
220		138	54.5						732	1043		
210		61.3							544	765		
200									386	533		
190									267	380		
180									200	289		
170									158	232		
160									127	190		
150									106	157		
140									92.2	136		
130									82.6	123		
120									74.8	114		
110										12.4		

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 1 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	C1	1	0	0	0	A1	A1	1	A0	A0	0	A0
HMIN		109	107	110	108	112	198	204	231	231	247	249
SCAT		36.3	98.4	55.4	52.0	45.4	53.9	59.2	55.2	39.1	50.8	51.7
HMAXF		259	327	297	293	267	280	323	339	314	337	347
SHMAX		841	1273	1038	994	789	468	341	303	234	247	226
KM												
350												335
340									417		389	334
330			917					446	414		387	326
320			916					446	404	446	379	313
310			910					441	387	445	362	292
300			900	1143	1215			429	365	431	339	267
290			885	1138	1214			410	335	403	308	234
280			863	1116	1195		754	389	295	363	267	195
270			839	1073	1153	1215	749	358	249	301	211	146
260		1215	812	1015	1095	1208	730	313	196	228	123	73.3
250		1198	779	938	1002	1173	699	256	131	127	38.7	12.4
240		1135	736	843	872	1109	658	191	61.7	60.3		
230		1026	691	734	731	1015	591	127				
220		879	644	612	576	866	481	79.1				
210		723	597	502	445	661	335	45.6				
200		585	551	413	352	459	133					
190		478	497	345	288	300						
180		402	430	292	241	208						
170		345	351	252	205	157						
160		303	290	218	176	126						
150		263	238	188	152	107						
140		219	200	160	132	95.2						
130		178	174	150	122	87.5						
120		167	153	136	115	76.3						
110		90.5	129	12.4	74.2							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 2 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	0	A0	1	A1	1	2	2	2	1	1	1	1
HMIN	239	212	205	214	239	257	268	228	111	110	110	108
SCAT	40.8	30.1	42.8	33.7	43.1	54.6	46.6	38.9	32.7	34.2	49.1	63.4
HMAXF	323	280	277	274	314	364	362	304	252	250	262	289
SHMAX	184	159	148	93	89	115	126	208	565	852	989	1269
KM												
370						156	198					
360						156	198					
350						154	195					
340						149	187					
330	338					141	174					
320	337				161	131	158					
310	329				160	119	136	417				
300	310				156	103	110	416				
290	280	389			148	85.5	83.5	404				1316
280	242	389	282	219	135	66.3	55.9	378				1309
270	192	377	280	218	120	48.2	12.4	341			1341	1285
260	125	344	271	209	97.2	12.4		276	1050		1341	1246
250	65.7	290	254	191	66.1			190	1049	1514	1321	1189
240	12.4	209	232	165	12.4			96.2	1016	1482	1274	1126
230		109	195	119				25.6	935	1387	1201	1024
220		51.5	135	51.3					795	1246	1108	891
210			51.0						596	981	947	747
200									417	696	761	625
190									285	476	547	522
180									211	339	403	444
170									163	265	316	380
160									131	220	270	326
150									109	188	231	281
140									95.9	164	194	241
130									90.5	146	165	210
120									85.0	134	152	189
110										49.6	71.4	143

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 2 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	1	A1	A1	A1	A1	A1	A1	A1	1	A1	F1	A2
HMIN	107	107					209	206	204	215	202	241
SCAT	49.6	55.1					33.4	29.9	63.9	45.1	56.2	56.2
HMAXF	276	283					276	258	324	306	316	353
SHMAX	1107	1051					516	226	239	188	187	194
KM												
360												262
350												262
340												259
330									286			252
320									285		246	240
310									282	310	245	224
300									276	309	241	205
290		1215							266	300	230	181
280	1328	1214					1240		251	284	219	150
270	1324	1197					1231		235	262	203	112
260	1294	1161					1172	608	215	230	184	73.8
250	1237	1107					1058	596	190	189	162	45.0
240	1151	1030					867	549	161	141	137	
230	1043	916					555	470	128	91.0	107	
220	911	779					173	343	94.1	47.1	76.0	
210	765	633					12.4	103	51.1		45.4	
200	617	503										
190	501	407										
180	419	344										
170	359	297										
160	313	255										
150	274	217										
140	240	194										
130	204	177										
120	176	168										
110	161	148										

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 3 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	2	2	F2	2	F2	1	1	1	1	1	1	1
HMIN	269	255	227	201		256	255	237	110	108	107	107
SCAT	52.8	40.7	46.0	38.5		61.0	53.0	39.3	35.1	41.6	47.6	42.6
HMAXF	375	334	313	276		371	367	302	257	261	257	260
SHMAX	215	164	189	163		137	131	179	612	1015	956	905
KM												
380	298					170						
370	297					170	179					
360	291					168	178					
350	280					165	175					
340	264	310				158	168					
330	242	309				149	157					
320	216	301	323			138	144					
310	186	283	322			127	128	382				
300	154	257	316			112	108	382				
290	118	219	301			94.4	85.8	373				
280	75.4	166	281	329		74.6	65.3	352				
270	12.4	97.0	252	327		53.2	47.7	323		1612		1240
260		46.0	214	315		22.9	20.3	271	1143	1611	1341	1240
250			157	294				178	1130	1583	1334	1221
240			85.8	262				44.7	1070	1506	1300	1168
230			32.2	206					968	1399	1235	1083
220				132					791	1208	1150	955
210				62.7					562	919	1009	791
200									356	652	815	634
190									232	442	618	505
180									165	325	446	414
170									124	262	334	348
160									97.5	219	274	300
150									84.2	183	228	263
140									80.2	156	187	227
130									76.4	138	160	190
120									72.6	122	149	170
110									12.4	89.8	119	137

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 3 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	1	1	1	1	A1	A1	A1	A1	A0	A0	0	1
HMIN	107	108	108	108							244	238
SCAT	49.3	41.0	51.1	45.5							47.8	48.1
HMAXF	277	273	298	281							332	344
SHMAX	974	953	1149	944							168	191
KM												
350												286
340											274	285
330											274	279
320											270	268
310											259	248
300			1277								244	224
290			1270	1143							223	194
280	1119	1215	1239	1143							192	159
270	1114	1214	1176	1126							153	121
260	1085	1184	1102	1078							102	83.1
250	1036	1117	1002	1006							48.4	52.8
240	964	1016	887	918								12.4
230	867	897	770	816								
220	764	763	651	702								
210	657	629	539	592								
200	558	521	449	492								
190	478	439	382	406								
180	407	380	331	333								
170	347	335	286	276								
160	299	297	238	234								
150	259	260	206	198								
140	225	225	187	174								
130	198	199	175	158								
120	186	186	167	149								
110	146	130	130	123								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 4 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	1	1	A1	A1	A1	A1	A1	1	1	1	1	1
HMIN	259	218		218	295	248	228	207	107	110	109	109
SCAT	43.6	43.2		40.0	54.7	51.1	42.6	47.5	29.1	41.2	42.7	53.6
HMAXF	347	305		293	402	343	310	302	246	256	270	273
SHMAX	181	224		122	136	119	82	208	466	657	872	899
KM												
410					189							
400					189							
390					186							
380					181							
370					172							
360					162							
350	310				147	179						
340	308				128	179						
330	298				103	176						
320	279				75.8	170	143					
310	253	410			51.7	160	143	335				
300	218	409		240	21.7	149	141	335				
290	173	398		240		133	135	330				
280	124	375		234		111	125	317				1038
270	70.2	345		220		80.3	112	297			1143	1038
260	12.4	296		202		52.4	93.6	271		1004	1128	1024
250		216		173		12.4	72.7	233	875	998	1079	989
240		121		122			50.4	182	865	964	1003	939
230		63.1		64.2			12.4	123	807	903	898	874
220		12.4		12.4				67.4	698	805	778	786
210								19.9	556	662	654	684
200									400	500	535	577
190									288	371	429	477
180									216	279	352	395
170									171	223	300	333
160									140	182	260	290
150									120	148	222	250
140									106	126	183	197
130									93.8	119	157	164
120									67.8	112	144	150
110									44.2	12.4	76.1	113

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 4 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	1	1	B0	0	0	A1	A1	A1	0	0	0	0
HMIN	108	110		108	110	109	206		219	226	204	225
SCAT	54.0	63.0		51.6	56.6	47.9	42.9		49.0	37.9	44.0	48.3
HMAXF	293	318		286	282	273	293		330	300	285	325
SHMAX	1150	1445		1057	840	652	445		339	260	214	205
KM												
330									492			310
320		1420							487			309
310		1415							471			303
300	1252	1392					794		448	532		289
290	1251	1352		1277	949		793		411	523	389	270
280	1229	1290		1273	949	875	775		365	494	387	244
270	1185	1221		1245	938	874	735		312	449	377	210
260	1139	1125		1187	912	859	676		254	380	357	172
250	1052	1005		1118	875	824	591		191	286	330	129
240	943	862		1018	818	771	481		127	161	286	85.6
230	819	725		892	750	698	328		67.5	49.2	216	43.6
220	697	603		731	673	596	170		12.4		126	
210	581	505		577	586	480	50.1				51.0	
200	485	435		455	491	366						
190	415	384		369	385	280						
180	365	343		310	288	222						
170	328	306		266	230	179						
160	297	275		229	192	142						
150	269	247		196	160	114						
140	240	215		169	137	97.7						
130	190	175		152	124	91.6						
120	161	153		139	116	85.7						
110	113	49.6		97.9	40.2	46.8						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 5 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	F0	0	F1	F1	A1	1	1	F1	1	1	81	0
HMIN	227	230		239	279	259	219	228	213	117		109
SCAT	43.1	47.3		34.7	50.8	50.4	56.3	45.8	36.5	37.7		39.5
HMAXF	336	323		332	380	359	321	310	279	254		246
SHMAX	218	240		209	266	258	261	256	400	747		705
KM												
390					389							
380					389							
370					385							
360					373	389						
350					353	386						
340	342			403	326	376						
330	340	389		403	292	357	362					
320	327	388		391	254	334	362	446				
310	307	381		362	211	299	358	446				
300	279	365		318	156	254	349	441				
290	246	338		265	86.1	202	335	424				
280	209	306		205	12.4	137	314	397	917			
270	170	264		136		72.3	289	361	904			
260	126	209		87.3		12.4	256	308	857	1215		
250	78.4	136		51.0			215	233	777	1211		1004
240	49.0	67.1		6.6			166	127	631	1172		998
230	12.4	3.2					102	28.3	414	1090		961
220							12.4		84.6	966		893
210										805		790
200										612		664
190										432		546
180										317		444
170										245		368
160										197		311
150										162		268
140										140		240
130										130		187
120										111		168
110												65.5

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 5 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	0	A0	A2	A2	A2	A2	A2	A2	1	A1	1	3
HMIN	109	108						209	227	237	211	229
SCAT	55.3	43.6						45.3	52.7	38.9	48.4	48.8
HMAXF	289	282						292	331	313	294	326
SHMAX	981	1113						338	281	280	225	171
KM												
340									403			
330									403			262
320									399	565		261
310									387	564		255
300								577	366	550	382	243
290	1004	1446						576	341	516	381	226
280	998	1446						566	309	466	374	204
270	975	1419						542	268	388	358	175
260	932	1355						503	217	272	336	139
250	878	1258						450	158	141	304	96.0
240	810	1111						381	97.4	40.7	255	58.2
230	731	941						295	36.8		185	4.9
220	643	764						182		84.4		
210	560	600						43.1				
200	484	474										
190	423	396										
180	375	343										
170	336	305										
160	303	273										
150	269	238										
140	234	205										
130	203	181										
120	187	170										
110	76.1	144										

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 6 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	F3	3	2	2	2	3	3	3	2	2	2	1
HMIN	269	229	230	239	289	238	238	222	115	110	107	108
SCAT	44.4	54.2	44.3	46.8	50.0	44.9	41.3	34.3	45.2	33.3	42.4	46.9
HMAXF	355	334	321	338	387	341	324	293	266	249	262	273
SHMAX	180	273	206	244	175	197	147	164	579	672	1026	1116
KM												
390					262							
380					261							
370					255							
360	310				243							
350	309				226	310						
340	302	389		382	205	310						
330	286	3=8	355	379	177	306	262					
320	264	382	355	367	143	294	262					
310	232	370	349	346	107	272	255					
300	191	351	334	318	66.6	245	240	362				
290	137	327	312	281	12.4	211	218	361				
280	70.1	293	279	236		172	188	348				1446
270	12.4	248	231	181		131	147	320	875		1514	1445
260		195	169	120		91.0	103	277	872		1513	1418
250		132	102	68.3		55.0	63.1	210	849	1215	1483	1359
240		68.8	53.6	12.4		12.4	12.4	128	804	1194	1408	1258
230		12.4						59.6	739	1119	1306	1144
220									644	986	1140	980
210									522	782	920	802
200									379	560	681	638
190									245	386	493	508
180									169	281	374	407
170									124	220	303	338
160									97.8	181	260	295
150									83.4	151	227	257
140									78.7	129	191	212
130									74.1	120	156	160
120									63.0	112	137	148
110										12.4	117	90.0

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 6 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	1	1	A0	0	0	1	1	1	3	3	3	3
HMIN	109	109	108	108	110	110	222	192	199	257	249	221
SCAT	74.4	71.0	59.4	60.6	59.6	57.2	32.3	38.0	67.0	36.1	58.5	39.4
HMAXF	304	318	323	310	311	307	284	255	340	330	354	314
SHMAX	1393	1479	1535	1360	1268	1224	675	406	289	151	280	175
KM												
360											382	
350											381	
340									310		376	
330			1542						308	310	365	
320		1341	1541	1380	1341				303	305	349	310
310	1316	1337	1524	1380	1341	1433			294	287	329	309
300	1315	1319	1486	1371	1329	1428			282	256	300	301
290	1304	1288	1423	1342	1298	1401	1669		266	217	263	281
280	1282	1244	1347	1283	1248	1353	1661		247	168	212	253
270	1248	1187	1250	1219	1177	1279	1586		225	112	147	214
260	1201	1122	1115	1141	1093	1190	1438	906	200	38.7	78.8	170
250	1152	1027	978	1045	984	1076	1186	902	172		12.4	127
240	1079	918	843	936	864	931	764	869	146			81.9
230	978	806	715	826	735	763	234	810	120			46.8
220	859	692	608	716	607	598		698	93.3			
210	722	589	521	605	492	453		509	65.1			
200	586	505	446	500	393	333		241	12.4			
190	475	438	381	406	319	246						
180	392	378	326	327	265	194						
170	335	327	279	268	225	159						
160	294	287	236	216	193	135						
150	263	257	195	185	167	116						
140	227	230	163	159	143	102						
130	160	175	143	143	125	91.2						
120	149	152	135	134	116	81.3						
110	65.5	76.1	98.4	111	12.4	12.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 7 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	3	3	1	1	1	F1	1	1	2	2	2	1
HMIN	259	239	208	209	227	248	213	200	108	108	106	108
SCAT	44.5	38.8	31.6	48.2	45.1	50.6	32.4	47.4	35.3	34.8	28.7	50.8
HMAXF	352	324	284	311	338	362	289	292	251	268	239	253
SHMAX	218	248	218	265	203	272	163	208	403	884	805	724
KM												
370						389						
360	362					389						
350	361					383						
340	355				310	370						
330	339	477			307	348						
320	313	475		417	297	319						
310	279	461		417	279	286						
300	236	431		412	253	246		335				
290	184	387	500	398	221	196	362	335				
280	125	322	498	374	186	138	354	330				
270	68.2	235	474	343	146	91.2	328	318		1542		
260	12.4	140	426	301	106	55.4	287	297	679	1523		917
250		68.3	352	243	75.5	12.4	227	271	679	1443		917
240		12.4	256	170	49.0		155	235	662	1315	1669	903
230			134	104	12.4		81.8	189	616	1092	1624	871
220			63.1	55.6			44.2	132	545	816	1484	818
210			12.4	4.9				70.7	447	548	1226	756
200								3.2	332	371	807	674
190									234	279	506	572
180									170	223	350	452
170									130	180	288	348
160									105	145	247	295
150									88.6	122	214	251
140									81.3	111	182	204
130									77.3	105	156	168
120									73.4	100	138	152
110									48.6	80.9	121	123

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 7 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A1	A1	A1	1	A1	A3	A3	3	4	4	F4	F4
HMIN			106	106	108			199	218	248	277	283
SCAT			63.6	54.3	47.7			38.1	59.3	41.5	48.1	52.7
HMAXF			323	287	269			267	345	351	394	410
SHMAX			1849	1374	837			212	195	188	249	254
KM												
410												335
400											362	333
390											361	324
380											354	309
370											339	286
360										310	314	259
350									235	310	284	229
340									234	304	247	197
330			1907						231	290	207	160
320			1906						224	265	161	121
310			1887						213	232	113	85.7
300			1845						199	195	75.3	57.7
290			1778	1654					182	152	48.5	31.6
280			1693	1647					163	111	12.4	
270			1587	1612	1050			446	142	77.7		
260			1438	1549	1039			442	119	50.0		
250			1253	1461	1006			424	95.2	12.4		
240			1036	1345	947			390	72.5			
230			824	1197	871			340	50.8			
220			652	1026	784			262	12.4			
210			519	801	686			155				
200			424	595	578			12.4				
190			362	435	459							
180			316	340	361							
170			278	285	282							
160			244	246	225							
150			215	214	189							
140			191	188	160							
130			175	168	135							
120			163	153	121							
110			126	128	93.8							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 8 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	4	F4	F4	4	F4	F3	F3	3	3	A3	3	4
HMIN	281	239	210	240	290	222		228	109		110	110
SCAT	40.9	47.8	38.5	48.1	45.3	38.5		37.5	34.6		48.5	46.6
HMAXF	372	327	280	338	379	317		308	256		278	271
SHMAX	221	320	221	156	173	528		157	536		1286	1097
KM												
380	389				286							
370	389				283							
360	380				274							
350	360				256							
340	328			240	232							
330	286	540		238	203							
320	233	537		231	168	960						
310	173	524		219	127	952		310				
300	108	497		201	74.1	911		306				
290	57.6	461	477	180	1.2	836		292				
280		409	477	151		742		267			1756	1542
270		333	468	118		622		230			1744	1541
260		225	443	80.8		477		180	960		1697	1520
250		98.2	403	49.1		305		121	954		1609	1463
240		12.4	344	.3		156		64.8	909		1493	1368
230			220			62.2		12.4	829		1326	1239
220			78.7						687		1084	1070
210			3.7						513		818	820
200									349		581	587
190									244		434	411
180									181		342	325
170									142		284	276
160									116		244	235
150									97.2		209	199
140									90.6		181	172
130									84.1		151	157
120									67.2		133	148
110									12.4		12.4	12.4

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 8 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A4	A4	A4	A4	A4	A3	A3	3	2	2	2	4
HMIN	107	109					209	197	200	231	262	249
SCAT	63.2	56.2					49.4	33.9	42.6	63.1	47.7	45.4
HMAXF	313	308					303	268	296	380	367	348
SHMAX	1342	1469					902	417	202	285	251	258
KM												
390										310		
380										310		
370										308	389	
360										302	387	
350										292	376	410
340										277	356	406
330										259	330	393
320	1290									238	293	369
310	1289	1640					1446			214	245	337
300	1275	1631					1445		335	189	187	294
290	1246	1597					1422		334	162	129	243
280	1194	1534					1369		324	137	77.2	185
270	1140	1455					1284	917	304	112	44.5	123
260	1059	1343					1178	903	275	87.3		68.6
250	965	1202					1013	848	238	64.4		12.4
240	864	1033					793	757	195	43.6		
230	762	836					516	621	146			
220	660	657					270	451	100			
210	572	520					49.0	240	62.7			
200	494	424						61.6	2.6			
190	423	360										
180	358	312										
170	297	269										
160	247	228										
150	204	195										
140	176	174										
130	159	179										
120	150	150										
110	111	109										

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 9 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	4	F4	F5	5	5	5	5	5	4	4	4	4
HMIN	221	279	232	199	247	228	218	238	219	108	107	107
SCAT	36.9	53.7	39.7	35.4	50.5	56.7	44.1	43.6	34.0	48.6	39.9	53.1
HMAXF	305	391	306	263	344	340	304	333	273	284	259	291
SHMAX	215	289	291	163	114	166	132	187	431	1029	1041	1411
KM												
400		389										
390		389										
380		385										
370		374										
360		356										
350		331			170							
340		301			170	219		310				
330		266			167	217		310				
320		227			161	212		303				
310	417	185	573		151	203	229	289				
300	415	136	570		139	191	229	264				1612
290	399	84.7	550		123	176	223	234		1328		1611
280	366	12.4	510		102	158	211	197	1096	1326		1593
270	320		454	362	79.5	135	196	153	1093	1302		1542
260	260		383	361	57.3	109	172	110	1054	1250	1654	1463
250	194		271	350	19.6	81.9	139	62.3	967	1168	1631	1360
240	113		101	322		52.9	96.8	12.4	823	1062	1556	1233
230	55.2			284		12.4	57.1		523	920	1427	1091
220				228			12.4		49.0	757	1249	947
210				142						593	974	803
200				12.4						458	699	664
190										354	495	537
180										280	357	428
170										232	289	334
160										194	242	269
150										163	207	223
140										136	179	189
130										116	153	157
120										105	137	139
110										86.7	117	127

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 9 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A4	A4	A4	A4	A4	A5	A5	5	A2	A2	2	0
HMIN							199	212	217	226	261	269
SCAT							46.3	39.0	52.4	45.2	43.8	51.1
HMAXF							292	288	315	345	348	366
SHMAX							580	339	229	195	184	216
KM												
370												329
360												328
350										298	323	321
340										297	320	308
330										289	308	288
320									348	273	289	264
310									347	251	262	231
300							960		341	223	224	187
290							960	679	327	188	174	129
280							944	672	310	147	104	70.9
270							904	642	284	107	51.7	12.4
260							844	591	249	73.7		
250							759	515	202	52.4		
240							647	405	128	36.6		
230							508	258	67.8	9.7		
220							342	87.5	20.3			
210							158					
200							12.4					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 10 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	0	F0	1	1	1	2	F2	2	2	2	2	1
HMIN	238	218	215	213	217	229	217	200	219	109	107	108
SCAT	37.4	35.0	37.5	44.7	54.2	59.5	46.7	40.7	43.7	38.0	39.8	52.7
HMAXF	318	288	285	294	337	343	300	284	283	263	259	269
SHMAX	196	211	172	155	149	155	119	166	333	720	907	896
KM												
350						198						
340					193	198						
330					193	196						
320	389				189	191						
310	385				181	184						
300	367			274	169	172	198					
290	334	477	362	273	156	159	196	310	670			
280	289	470	360	267	139	144	190	309	669			
270	228	444	346	253	120	124	178	301	655	1143		1096
260	149	401	320	235	100	99.8	163	284	624	1141	1446	1088
250	76.9	326	282	208	80.4	72.0	144	258	579	1108	1429	1061
240	21.7	201	225	170	61.2	48.1	116	221	497	1033	1366	1014
230		85.7	132	119	44.7	7.0	79.2	167	365	923	1254	968
220		23.0	47.1	59.6	12.4		38.7	104	87.9	762	1105	857
210								54.8		590	870	742
200										437	606	610
190										324	418	482
180										249	317	381
170										198	263	316
160										160	226	270
150										133	191	229
140										111	157	186
130										96.0	130	151
120										89.5	120	137
110										74.0	112	127

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 10 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	1	1	1	1	1	A1	1	1	0	A0	0	1
HMIN	107	109	106	109	110		208	201	206	269	250	251
SCAT	51.9	55.1	53.1	48.2	45.4		38.8	45.2	47.9	49.0	50.4	44.0
HMAXF	297	305	297	284	281		283	279	297	357	343	340
SHMAX	1182	1536	1427	1151	872		505	393	192	156	182	144
KM												
360										251		
350										250	280	240
340										244	280	240
330										231	275	237
320										216	265	227
310		1712								194	250	211
300	1328	1708	1654						304	167	231	190
290	1323	1679	1647	1446	1143		1050		302	131	202	162
280	1294	1621	1613	1444	1143		1048	716	294	73.5	166	130
270	1240	1534	1547	1417	1125		1020	709	279	12.4	123	94.8
260	1157	1427	1452	1358	1079		958	685	259		67.0	59.0
250	1057	1281	1330	1266	1009		856	642	231		2.6	
240	931	1107	1187	1144	906		701	584	196			
230	789	922	1017	1003	781		456	491	154			
220	659	751	823	844	665		187	363	104			
210	548	599	655	681	523		34.9	156	44.3			
200	460	486	520	535	418							
190	394	408	414	419	334							
180	343	351	344	333	271							
170	302	307	297	276	224							
160	267	270	260	236	185							
150	236	238	228	204	151							
140	199	210	199	176	125							
130	155	182	172	152	109							
120	139	153	154	136	101							
110	127	68.6	132	87.9	12.4							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 11 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	1	A1	1	A1	1	0	0	0	0	0	A0	A0
HMIN	228	239	219	219	249	229	228	201	200	108	108	
SCAT	45.5	39.7	38.3	40.0	44.1	46.9	42.7	45.0	42.4	40.7	39.2	
HMAXF	328	309	294	296	332	316	313	285	269	246	254	
SHMAX	180	162	155	170	117	122	125	214	344	591	846	
KM												
340					198							
330	286				198							
320	283				195	198	219					
310	274	329			186	198	219					
300	257	325	310	329	172	193	214					
290	234	310	309	327	153	183	203	382				
280	205	288	300	315	130	168	187	381				
270	170	271	279	293	105	150	166	371	707			
260	129	194	248	263	75.6	128	135	351	698		1316	
250	84.5	106	208	215	12.4	100	99.6	325	669	906	1312	
240	52.2	12.4	149	147		65.9	62.2	285	625	902	1273	
230	12.4		79.1	76.8		12.4	12.4	219	550	873	1192	
220			12.4	12.4				128	414	814	1071	
210								61.1	154	731	873	
200										605	674	
190										466	497	
180										349	371	
170										269	299	
160										215	255	
150										176	217	
140										148	182	
130										127	155	
120										117	137	
110										79.9	105	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 11 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A0	A0	A0	0	0	A0	A0	0	0	0	0	2
HMIN	106			109	106	109	210	185	201	227	218	201
SCAT	39.8			44.2	37.9	41.7	30.5	37.1	45.7	46.2	42.4	51.5
HMAXF	240			274	262	272	264	247	280	332	304	286
SHMAX	630			859	787	717	390	215	115	139	113	103
KM												
340										214		
330										213		
320										210		
310										201	198	
300										187	198	
290									198	170	193	161
280				1096		1038			198	146	183	160
270				1093	1215	1038	1050		196	117	166	157
260				1067	1215	1018	1045		189	89.1	145	151
250	917			1010	1187	966	994	477	177	66.0	119	141
240	917			930	1116	888	888	472	163	46.0	84.4	130
230	902			827	1005	787	701	452	141	12.4	53.8	115
220	857			709	851	659	355	418	106		12.4	94.8
210	786			585	642	530	12.4	358	65.2			64.8
200	682			474	475	404		257				
190	555			389	373	299		106				
180	439			321	295	218						
170	349			273	244	166						
160	296			237	208	135						
150	260			206	178	114						
140	229			179	156	97.0						
130	197			156	137	84.6						
120	160			138	122	77.5						
110	145			116	110	64.6						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 12 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	2	2	2	2	2	1	1	1	1	1	1	A1
HMIN	227	231	209	200	200	207	219	198	108	107	107	
SCAT	58.3	36.4	37.6	26.5	45.0	56.3	33.7	40.0	35.1	37.3	33.4	
HMAXF	346	298	285	254	274	303	276	277	239	260	239	
SHMAX	138	91	110	93	104	102	53	108	350	708	655	
KM												
350	174											
340	174											
330	171											
320	166											
310	158					143						
300	148	193				143						
290	135	191	219			141						
280	119	182	218		189	137	123	203				
270	99.3	165	209		188	131	122	202				
260	79.7	142	193	262	184	122	116	193		1191		
250	61.3	107	171	261	175	114	105	179		1171		
240	45.1	58.6	138	244	164	100	89.5	161	573	1109	1240	
230	12.4		95.0	210	146	82.1	63.6	134	563	1004	1219	
220			56.4	152	118	57.5	12.4	102	528	829	1142	
210			4.9	76.2	75.4	19.9		60.5	472	594	1010	
200				2.6				12.4	395	401	774	
190									312	291	483	
180									239	236	323	
170									184	198	256	
160									145	168	213	
150									118	141	174	
140									103	121	149	
130									81.2	109	138	
120									66.2	101	129	
110									50.9	75.3	104	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 12 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A1	1	2	A2	A2	A2	A2	A2	2	A2	2	1
HMIN		109	107	108			209	200	208		228	278
SCAT		49.8	44.1	44.8			38.4	43.4	48.6		48.5	54.0
HMAXF		275	285	288			278	267	297		328	385
SHMAX		722	912	1027			579	297	145		150	169
KM												
390												235
380												234
370												230
360												222
350												209
340												193
330											229	174
320											228	149
310											222	119
300									229		210	88.6
290			1096	1341					228		196	57.0
280		794	1093	1331			1215		222		174	12.4
270		791	1066	1289			1203	573	210		147	
260		775	1008	1209			1150	570	196		115	
250		741	927	1102			1058	552	175		81.0	
240		691	820	963			911	518	149		50.9	
230		632	708	784			682	471	118		12.4	
220		566	592	612			397	399	80.6			
210		499	491	471			55.6	295	23.0			
200		433	411	375				49.6				
190		374	354	315								
180		327	316	275								
170		291	286	249								
160		262	259	226								
150		236	231	197								
140		201	199	164								
130		165	172	143								
120		151	150	132								
110		116	116	98.2								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 13 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
0*KP	F1	F1	F3	F3	3	A3	A3	A3	53	3	A3	2
HMIN		259	224	209	242	218				107		104
SCAT		43.7	36.7	32.2	48.4	41.6				38.9		40.5
HMAXF		342	295	281	344	301				246		271
SHMAX		214	165	169	165	124				630		861
KM												
350		375			246							
340		375			245							
330		368			240							
320		349			228							
310		323			213	224						
300		288	355		193	224						
290		240	354	389	169	220						
280		183	341	389	141	208						1096
270		105	316	378	112	193						1096
260		12.4	277	349	80.5	169						1076
250			213	303	46.5	137				1050		1020
240			117	226		96.5				1043		935
230			49.0	128		59.7				1004		827
220				66.2		12.4				932		712
210				12.4						812		595
200										622		491
190										424		412
180										312		354
170										240		311
160										193		277
150										160		248
140										134		219
130										116		190
120										106		162
110										97.6		144

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 13 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0*KP	2	A2	A2	A2	A2	A2	2	2	1	1	1	1
HMIN	104						211	201	201	204	204	199
SCAT	51.6						44.1	34.5	50.3	50.0	35.0	56.5
HMAXF	281						298	267	292	286	272	293
SHMAX	1122						740	444	426	211	106	80
KM												
300							1341		679			112
290	1341						1330		679	348		112
280	1341						1285		669	347	229	110
270	1325						1203	1004	646	339	229	107
260	1285						1094	995	609	323	223	102
250	1217						931	944	560	305	206	95.1
240	1135						683	855	491	274	183	87.4
230	1007						358	720	395	229	145	77.9
220	853						113	520	275	165	97.2	65.2
210	688							210	121	76.3	48.9	47.6
200	543											7.0
190	435											
180	362											
170	314											
160	278											
150	246											
140	216											
130	186											
120	160											
110	146											

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 14 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
0*KP	1	F1	F0	0	0	1	F1	1	50	0	0	1
HMIN	279	278	227	211	202	209	207	207	111	107	109	108
SCAT	44.5	43.3	37.9	33.4	49.1	55.2	49.2	38.5	34.9	35.8	38.3	42.9
HMAXF	368	365	297	275	285	315	304	279	245	253	243	248
SHMAX	107	139	136	155	134	131	95	132	365	618	524	589
KM												
370	179	240										
360	178	239										
350	172	233										
340	161	220										
330	146	201										
320	127	176				179						
310	103	142				179	143					
300	75.2	101	280			176	143					
290	49.3	62.0	278		219	170	140					
280	6.8	12.4	266	362	218	161	135	262				
270			246	360	214	149	126	259				
260			216	343	205	135	114	246		1050		
250			171	313	190	117	99.0	225	634	1048	834	834
240			104	262	173	96.1	82.0	195	631	1016	833	827
230			40.6	183	150	71.9	63.4	154	606	944	811	798
220				76.2	120	47.6	45.4	103	556	822	759	747
210					72.2	7.0	12.4	38.7	474	638	681	671
200									370	456	565	564
190									271	322	430	439
180									194	251	311	341
170									145	207	246	281
160									114	173	202	245
150									94.9	146	168	213
140									81.8	126	139	178
130									70.8	113	124	143
120									54.6	94.8	115	133
110										75.8	49.0	106

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 14 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0*KP	1	A1	1	1	1	A3	A3	3	3	3	3	F2
HMIN	109		110	108	106		199	202	228	229	199	238
SCAT	47.0		51.9	51.9	38.0		36.4	48.0	43.9	34.6	39.4	60.7
HMAXF	280		282	283	277		272	278	325	300	269	361
SHMAX	817		899	861	759		470	253	190	179	101	181
KM												
370												219
360												219
350												217
340												212
330									310			205
320									309			193
310									301			179
300									285	389		162
290			1050	993					262	381		144
280	960		1049	993	1096		1050	432	230	356		125
270	950		1036	979	1087		1049	428	189	318	198	103
260	918		1003	943	1042		1022	416	146	258	196	78.4
250	861		951	891	960		957	393	105	178	187	53.3
240	789		879	827	840		847	363	60.9	93.4	172	12.4
230	695		785	746	689		660	321	12.4	12.4	151	
220	594		676	646	538		370	262			122	
210	496		561	541	418		125	184			86.8	
200	417		445	441	332		12.4				12.4	
190	360		361	354	277							
180	319		305	296	239							
170	286		270	255	211							
160	258		243	226	185							
150	230		217	199	160							
140	196		190	171	135							
130	152		167	145	116							
120	135		151	134	106							
110	65.5		12.4	78.2	97.5							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO — 60 W — 15 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KP	F2	F2	F4	4	F4	F3	F3	3	3	3	3	2
HMIN			217	202		270	223	202	109	109	107	106
SCAT			34.4	44.5		50.0	34.8	42.3	30.8	28.7	35.0	48.5
HMAXF			287	285		358	293	278	257	257	252	242
SHMAX			162	141		124	111	169	391	596	726	585
KM												
360						193						
350						192						
340						187						
330						178						
320						164						
310						147						
300						127	240					
290			362	240		101	240					
280			358	239		67.2	231	310				
270			341	233		2.0	213	307				
260			307	221			185	296	716	1131	1303	
250			260	202			145	275	706	1112	1302	794
240			189	177			90.2	248	660	1023	1266	793
230			88.9	148			48.1	210	576	869	1178	781
220			33.6	113				161	451	670	1028	751
210				65.8				93.6	330	470	749	703
200									234	333	476	642
190									174	260	334	565
180									133	211	274	461
170									104	171	238	323
160									83.5	135	205	257
150									73.1	110	172	220
140									67.5	96.5	142	182
130									62.7	90.9	125	152
120									56.8	85.3	118	136
110									45.2	65.0	103	116

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO — 60 W — 15 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	2	A2	A1	1	S1	6	6	6	3	3	3	4
HMIN	107			105	108	107	207	200	228	249	212	188
SCAT	47.4			39.8	45.2	41.3	32.5	30.1	56.9	44.9	36.6	67.8
HMAXF	285			242	271	265	269	248	363	340	281	292
SHMAX	903			527	566	581	385	233	231	202	145	118
KM												
370									286			
360									286			
350									282	335		
340									274	335		
330									262	331		
320									245	318		
310									224	297		
300									199	268		143
290	1050								170	229	304	143
280	1047				679				138	180	304	142
270	1023				679	906	982		107	126	297	140
260	974				670	904	962		79.7	74.5	278	135
250	905			754	644	878	894	679	58.7	72.4	250	130
240	812			754	599	828	774	667	42.1		206	122
230	706			738	542	746	547	619	8.8		150	114
220	598			698	477	626	199	532			78.0	104
210	492			636	410	467	44.7	278				92.0
200	408			547	354	333		12.4				74.1
190	347			450	314	234						28.3
180	309			359	280	174						
170	287			294	245	142						
160	269			249	202	120						
150	243			212	163	104						
140	206			180	125	90.2						
130	163			155	109	80.6						
120	139			139	102	74.7						
110	128			127	69.4	56.7						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO — 60 W — 16 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KP	4	F4	F4	4	F4	F1	1	1	S0	0	0	0
HMIN	238	263	267	299		202	228	208		106	107	105
SCAT	71.6	34.1	39.5	37.3		41.8	54.6	36.8		37.6	35.6	46.4
HMAXF	372	336	342	374		289	325	286		267	257	260
SHMAX	136	112	104	107		114	89	130		634	770	917
KM												
380	143			208								
370	143			208								
360	142			201								
350	140		203	185								
340	136	240	203	165								
330	131	238	198	137			127					
320	124	227	184	107			127					
310	117	204	167	73.1			125					
300	108	173	145	12.4			121					
290	97.0	133	112			198	114	262				
280	84.6	85.7	69.3			196	105	261				
270	71.8	44.2	20.3			188	95.1	250		960		
260	58.5					174	82.6	230		951	1215	1328
250	44.1					156	67.5	202		907	1202	1314
240	8.1					131	48.9	158		831	1143	1269
230						102	12.4	106		726	1037	1194
220						72.5		59.2		600	885	1095
210						44.9		12.4		466	715	906
200										352	543	665
190										270	409	453
180										218	319	344
170										179	262	287
160										146	225	251
150										116	188	219
140										97.2	158	183
130										92.8	137	150
120										88.4	120	135
110										84.0	97.4	118

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO — 60 W — 16 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	0	0	A3	3	A3	S2	2	S2	3	3	3	2
HMIN	107	107		109		109	200	195	208	213	207	279
SCAT	84.7	47.9		41.7		38.3	39.1	24.6	44.6	43.8	36.0	48.9
HMAXF	318	276		253		271	260	232	302	298	293	389
SHMAX	1099	973		601		562	380	108	122	115	103	162
KM												
390												235
380												232
370												225
360												212
350												194
340												173
330												149
320	875											122
310	873								198			93.4
300	865								198	198	198	66.2
290	851								195	197	198	43.8
280	831	1240				834			186	190	192	3.4
270	804	1235				834	834		171	178	179	
260	772	1205		834		817	834		153	161	156	
250	735	1148		833		769	819		130	138	129	
240	688	1067		814		697	776	382	103	110	96.3	
230	632	947		772		605	709	381	76.2	73.9	68.3	
220	570	715		706		500	596	360	50.8	41.9	46.5	
210	507	608		611		391	402	313	12.4		12.	
200	448	468		499		295	12.4	163				
190	393	379		396		231						
180	345	325		320		185						
170	304	287		270		151						
160	268	257		235		123						
150	240	236		208		97.0						
140	219	222		181		82.4						
130	171	190		148		77.3						
120	141	152		134		72.2						
110	114	113		84.4		51.1						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 17 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	F2	2	2	2	2	2	2	S2	S2	2	2	1
HMIN	278	241	199	200	227	240	243	208	109	109	109	107
SCAT	40.7	42.0	26.3	24.3	46.8	51.4	39.6	34.8	32.9	34.9	35.8	29.5
HMAXF	371	325	250	242	321	332	324	268	254	256	248	240
SHMAX	140	184	90	49	110	131	117	127	374	561	753	547
KM												
380	240											
370	240											
360	235											
350	223											
340	203						198					
330	176	329			174	198	219					
320	146	327			174	196	218					
310	115	318			172	190	212					
300	82.9	297			165	179	199					
290	53.9	270			155	165	178					
280	12.4	232			142	148	151					
270		184			123	127	119	298				
260		129			99.8	97.6	78.0	294	643	917		
250		63.5	262	161	73.3	59.0	42.5	278	641	910	1341	
240			254	160	48.5	4.1		254	614	866	1325	906
230			225	151	12.4			207	555	787	1258	882
220			179	129				135	476	666	1149	803
210			104	90.1				28.3	371	509	944	682
200			12.4						275	372	652	532
190									206	287	402	414
180									155	237	290	350
170									118	202	243	307
160									93.9	167	216	269
150									81.6	137	192	234
140									75.2	112	167	197
130									68.8	95.4	144	161
120									62.5	89.0	122	138
110									12.4	55.6	65.5	106

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 17 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	1	1	1	1	1	S2	2	2	3	3	3	2
HMIN	105	104	107	109	109	106	222	195	200	213	208	209
SCAT	44.5	42.1	34.8	40.7	39.7	53.2	25.7	28.4	37.9	60.3	33.5	54.7
HMAXF	227	280	255	251	240	267	278	249	261	342	269	317
SHMAX	410	780	671	572	428	488	325	248	93	150	104	103
KM												
350										179		
340										179		
330										177		
320										173		139
310										167		139
300										157		136
290		906								146		131
280		906					960			132		122
270		893				573	940		198	116	240	113
260		849	1096	834		571	849		198	98.0	235	100
250		786	1091	834		559	680	679	195	79.5	220	86.3
240		701	1047	818	608	536	432	662	184	62.8	196	71.4
230	540	606	961	775	598	501	111	602	166	47.2	157	55.9
220	537	509	818	711	569	460		503	143	23.0	104	41.6
210	521	430	609	616	520	414		340	105		26.9	4.5
200	489	373	436	492	457	362		111	12.4			
190	446	332	331	375	390	308						
180	395	303	278	292	324	253						
170	345	282	244	244	264	202						
160	301	268	212	213	219	157						
150	265	250	179	185	185	127						
140	232	226	161	159	157	103						
130	199	202	154	141	134	84.7						
120	164	169	147	132	120	77.2						
110	143	138	121	55.6	65.5	66.7						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 18 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	2	2	3	3	F3	F3	S3	3	S5	5	5	3
HMIN	278	240	245	253	218	201	261	218	210	108	108	109
SCAT	38.4	45.4	42.6	46.1	53.6	56.4	60.4	57.4	33.5	27.4	32.6	32.7
HMAXF	355	334	327	346	318	290	360	331	284	244	247	243
SHMAX	93	135	121	124	138	77	78	149	280	587	690	599
KM												
360	179						104					
350	178			198			104					
340	172	219		197			101	193				
330	160	218	214	192			98.0	193				
320	142	214	212	182	198		92.2	192				
310	117	204	205	167	197		86.1	187				
300	87.0	188	191	148	193	112	78.6	179				
290	55.1	168	172	124	184	112	69.9	169	643			
280	12.4	142	148	95.8	172	111	58.7	156	641			
270		111	117	67.2	156	108	43.6	139	616			
260		78.6	82.7	40.4	138	103		118	565			
250		47.4	46.3		117	97.3		93.6	470	1240	1240	1050
240		1.1			88.2	89.7		70.1	312	1234	1224	1048
230					56.0	81.4		49.3	181	1161	1151	1009
220					12.4	69.9		12.4	81.5	1006	1019	924
210						50.1			.4	755	821	775
200										484	571	578
190										303	384	399
180										229	286	304
170										191	244	261
160										158	217	236
150										128	189	196
140										111	158	157
130										106	131	140
120										99.8	120	128
110										79.1	106	84.9

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 18 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	3	3	4	4	4	A3	A3	3	4	F4	F4	F2
HMIN	107	109	110	108	109		229	192	208	239		
SCAT	39.8	54.0	37.7	48.0	51.7		43.5	40.3	38.5	46.4		
HMAXF	227	269	248	247	255		312	264	268	327		
SHMAX	384	686	575	488	414		483	300	182	176		
KM												
330										292		
320							875			290		
310							875			280		
300							859			265		
290							819			243		
280							760			216		
270		754					674	608	403	181		
260		749			508		554	606	398	129		
250		730	875	608	507		394	588	379	70.9		
240		696	865	604	497		159	552	350	12.4		
230	573	653	824	588	477		12.4	497	303			
220	569	596	754	558	450			409	219			
210	548	530	647	517	411			275	55.7			
200	505	462	514	461	361			97.2				
190	450	393	385	395	305							
180	385	334	305	331	248							
170	313	292	260	280	201							
160	252	262	227	239	167							
150	217	237	196	210	139							
140	168	212	166	187	117							
130	134	177	154	166	107							
120	121	149	145	141	101							
110	106	5516	12.4	107	43.8							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 19 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O*KP	F2	2	2	2	F2	1	1	1	3	3	3	4
HMIN	267	219	210	200	205	211	220	205	110	105	106	109
SCAT	40.8	31.0	43.9	40.6	72.7	53.8	43.4	42.2	39.8	48.0	37.7	28.9
HMAXF	353	278	277	266	354	318	313	297	270	279	257	234
SHMAX	185	176	149	162	127	144	119	178	459	1004	1007	777
KM												
360	329				127							
350	328				127							
340	320				126							
330	300				123							
320	272				120	198	198					
310	236				115	197	198					
300	195				108	193	194	310				
290	144				99.7	185	184	308				
280	85.4	446	286		90.7	173	169	298		1393		
270	32.2	438	284	329	81.7	158	150	278	679	1380		
260		407	275	327	73.0	140	124	251	669	1335	1756	
250		354	259	316	64.1	120	94.1	215	635	1257	1740	
240		265	238	295	55.2	96.3	64.8	166	580	1161	1664	1669
230		130	206	267	46.6	69.6	42.2	115	511	1013	1530	1659
220		12.4	147	220	35.0	43.7		68.6	422	803	1327	1564
210			12.4	140	12.4			33.1	324	596	1009	1373
200				12.4					251	415	619	1050
190									196	304	369	588
180									155	245	288	347
170									124	207	247	282
160									101	177	217	252
150									82.0	148	190	223
140									69.9	124	163	191
130									63.8	104	136	156
120									56.7	92.5	119	134
110									12.4	84.9	99.8	55.6

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 19 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O*KP	4	4	A6	6	6	A5	A5	A5	6	6	A6	A6
HMIN	107	109		107	110	115			214	268		
SCAT	49.5	47.5		53.7	40.2	40.4			49.0	50.8		
HMAXF	238	269		290	284	259			314	379		
SHMAX	508	672		742	865	589			222	287		
KM												
380										417		
370										414		
360										402		
350										381		
340										353		
330										318		
320									335	274		
310									335	218		
300									328	157		
290				764	1143				315	101		
280				758	1140				293	59.0		
270		774		731	1108				267	12.4		
260		767		697	1037	960			234			
250		739		656	940	949			192			
240	643	696		603	824	907			145			
230	639	643		540	701	837			95.4			
220	623	579		477	577	739			50.3			
210	592	508		417	467	608						
200	550	435		363	376	459						
190	493	370		314	309	302						
180	423	320		277	260	177						
170	353	283		247	224	130						
160	298	255		225	196	107						
150	262	230		201	170	92.1						
140	228	203		167	144	82.4						
130	195	165		143	125	77.3						
120	160	137		134	116	72.2						
110	129	92.8		115	12.4							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 20 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O*KP	6	6	5	5	F5	F4	S4	4	4	4	4	A5
HMIN	235	225	207	267	247	203	216	208	209	107	108	
SCAT	42.7	38.6	69.8	41.6	41.1	34.8	80.5	35.5	34.4	34.9	44.3	
HMAXF	329	297	329	372	331	278	371	287	271	264	264	
SHMAX	254	232	205	150	114	98	150	142	282	703	888	
KM												
380				240			139					
370				240			139					
360				235			139					
350				223			137					
340				203	203		134					
330	446		235	178	203		130					
320	441		234	148	200		125					
310	424		230	120	188		119					
300	394	477	225	91.8	173		112					
290	353	473	216	66.9	152		104	286				
280	295	454	205	47.0	127	203	94.9	283	679			
270	223	421	193	12.4	98.2	200	84.8	269	679	1096	1240	
260	137	369	178		64.3	188	74.3	242	663	1093	1238	
250	66.8	294	159		19.9	169	63.2	206	618	1055	1210	
240	12.4	174	134			142	52.2	163	544	969	1151	
230		54.3	101			106	41.5	116	417	845	1060	
220			64.0			69.9	12.4	62.7	168	690	935	
210			19.9			42.2		12.4	12.4	541	774	
200										409	597	
190										321	452	
180										264	338	
170										224	278	
160										191	240	
150										162	210	
140										139	181	
130										120	157	
120										106	138	
110										91.4	113	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 20 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O*KP	A5	A5	A4	4	A4	A2	2	2	2	2	2	4
HMIN				108	110		209	200	218	238	204	199
SCAT				42.2	37.0		36.3	64.1	55.9	51.7	48.1	36.1
HMAXF				272	267		272	312	333	352	316	266
SHMAX				806	673		331	259	225	239	270	184
KM												
360										335		
350										335		
340									298	331		
330									297	320		
320								310	294	303	410	
310								310	285	279	408	
300								308	269	251	398	
290								301	251	216	378	
280				1050			754	291	229	176	351	
270				1049	1004		754	277	202	133	315	410
260				1028	996		732	261	168	89.1	264	407
250				975	951		680	239	134	54.3	202	390
240				897	872		603	214	98.4	12.4	142	359
230				797	762		465	187	60.9		94.3	308
220				681	633		244	157	12.4		59.7	220
210				563	502		38.9	121			32.8	100
200				452	384			12.4				12.4
190				370	299							
180				311	241							
170				267	205							
160				233	175							
150				203	149							
140				177	127							
130				154	111							
120				138	103							
110				115	12.4							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 21 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
0*KP	4	4	4	4	4	J4	S4	A4	4	A4	4	A4
HMIN	198	202	202	227	199	217	218	218	202		109	
SCAT	53.6	29.3	36.5	47.0	60.2	51.9	59.8	41.1	32.7		37.1	
HMAXF	292	263	267	320	313	306	321	305	278		239	
SHMAX	115	76	75	81	89	64	63	123	307		646	
KM												
330							83.8					
320				127	112		83.8					
310				126	112	97.2	83.1	219				
300	170			121	110	96.9	81.3	218				
290	170			114	108	94.8	78.2	211				
280	168			104	103	90.9	74.0	198	716			
270	163	193	161	90.6	97.3	85.3	68.1	179	704			
260	154	193	159	75.5	88.9	77.6	61.2	152	660			
250	145	185	152	60.0	79.9	69.1	53.2	119	582			
240	131	166	139	44.2	69.6	58.2	44.8	82.4	441		1215	
230	113	134	122	12.4	58.6	44.3	29.2	52.7	246		1197	
220	87.8	86.2	92.8		47.6	12.4	5.2	12.4	129		1135	
210	56.7	46.1	51.6		31.8				59.1		1030	
200	12.4				4.1						823	
190											470	
180											287	
170											237	
160											196	
150											156	
140											135	
130											124	
120											117	
110											98.2	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 21 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0*KP	A4	A4	A1	1	1	S1	1	A1	A1	A1	A1	2
HMIN			108	109	108		200	204	228	229	218	238
SCAT			57.7	77.8	52.3		31.6	43.2	54.9	51.4	53.8	50.9
HMAXF			293	324	305		260	290	340	332	337	357
SHMAX			932	1001	1200		272	195	211	207	210	242
KM												
360												335
350									286			334
340									286	304	280	326
330				794					283	304	278	312
320				793					276	300	272	291
310				787	1420				264	290	261	265
300			960	775	1417				246	274	245	229
290			960	756	1391			335	225	254	224	190
280			949	727	1339			331	200	227	200	151
270			923	695	1261			317	169	190	172	112
260			881	658	1157		679	293	135	148	140	77.1
250			827	616	1029		663	263	95.3	104	105	49.2
240			763	573	876		613	225	58.7	63.4	73.5	12.4
230			691	527	718		527	179	12.4	12.4	49.2	
220			612	480	560		367	123			12.4	
210			529	434	435		198	54.5				
200			447	389	342		12.4					
190			372	347	281							
180			311	305	239							
170			268	267	207							
160			237	234	181							
150			209	206	160							
140			179	176	141							
130			159	149	121							
120			149	134	106							
110			104	55.6	97.4							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 22 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
0*KP	2	A2	A4	A4	F4	F4	A4	F4	4	A4	A4	A4
HMIN	214	208					237	203	110			
SCAT	32.5	33.3					63.4	53.4	40.5			
HMAXF	292	273					381	315	246			
SHMAX	155	156					231	279	377			
KM												
390							257					
380							257					
370							255					
360							250					
350							242					
340							229					
330							215					
320							197	389				
310							177	388				
300	335						154	382				
290	335						131	368				
280	323	362					108	346				
270	296	361					85.1	320				
260	253	348					62.9	287				
250	197	319					45.1	248	608			
240	132	274					12.4	201	604			
230	71.8	203						142	583			
220	38.8	106						83.7	544			
210		25.6						44.2	485			
200									396			
190									285			
180									199			
170									146			
160									111			
150									92.1			
140									80.8			
130									73.8			
120									59.5			
110									12.4			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 22 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0*KP	A4	A4	A3	3	A3	A3	3	3	3	3	F3	2
HMIN				108			201	186	226	258		233
SCAT				46.0			33.5	62.3	62.9	47.9		56.0
HMAXF				274			257	291	348	350		342
SHMAX				939			346	185	142	135		213
KM												
360										214		
350									170	214		286
340									169	211		286
330									166	204		282
320									161	192		275
310									154	177		262
300								240	147	155		246
290								240	136	128		225
280				1240				238	121	96.9		198
270				1237				233	104	59.6		165
260				1210			875	225	85.9	12.4		130
250				1153			864	214	65.1			93.2
240				1067			816	200	46.4			51.3
230				948			729	183	16.4			
220				805			565	163				
210				645			261	133				
200				487				92.3				
190				371				43.6				
180				304								
170				261								
160				231								
150				204								
140				178								
130				155								
120				136								
110				91.9								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 23 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	2	2	A2	A2	2	A1	A1	1	1	1	1	2
HMIN	219	212			240		205	208	200	112	107	109
SCAT	48.9	39.5			60.9		67.2	42.7	38.1	30.5	27.7	30.8
HMAXF	311	295			357		319	291	284	256	251	235
SHMAX	192	190			110		71	112	333	697	767	564
KM												
360					135							
350					135							
340					133							
330					129							
320	310				122		83.8					
310	310				114		83.4					
300	306	362			104		82.1	198				
290	295	360			93.8		79.9	198	679			
280	278	349			82.0		76.7	195	677			
270	257	325			69.9		72.6	186	657			
260	226	292			56.2		67.0	171	613	1328	1555	
250	180	243			40.1		61.1	152	546	1316	1555	
240	117	174			.6		54.2	127	428	1239	1496	993
230	59.6	104					46.6	93.1	271	1092	1328	986
220	4.5	52.4					35.0	59.2	145	871	1068	930
210							12.4	12.4	67.2	598	704	826
200									3.7	400	456	681
190										293	332	504
180										235	277	365
170										196	244	296
160										165	214	263
150										137	180	225
140										117	147	178
130										106	126	148
120										98.0	118	136
110											101	115

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 23 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A2	A2	A1	A1	1	A1	A1	1	3	S3	F3	F3
HMIN		107			107		215	200	199	257	258	245
SCAT		42.3			53.1		39.7	26.9	51.4	52.0	54.2	40.6
HMAXF		273			264		279	249	277	358	377	330
SHMAX		869			620		459	173	111	99	184	160
KM												
380											240	
370											239	
360										143	234	
350										143	225	
340										139	211	286
330										133	193	286
320										124	173	281
310										112	149	268
300										98.8	125	245
290										82.8	101	215
280		1143					1004		179	64.5	74.7	178
270		1141			735		990		178	45.9	50.3	135
260		1116			734		944		174	12.4	12.4	90.2
250		1054			722		872	508	166			44.4
240		968			694		727	494	155			
230		842			658		482	446	144			
220		688			608		128	361	126			
210		545			536			216	98.2			
200		439			451			12.4	12.4			
190		368			369							
180		323			305							
170		294			258							
160		269			223							
150		243			194							
140		220			168							
130		166			145							
120		139			128							
110		128			69.7							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 24 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	F3	F3	4	F4	F4	F3	F3	3	S3	3	3	3
HMIN	235	221	200	201	251	268	213	219	209	108	109	109
SCAT	46.3	36.8	31.4	56.6	55.8	50.6	52.4	36.7	30.5	32.0	46.0	38.2
HMAXF	325	288	249	301	361	362	327	293	270	262	270	253
SHMAX	207	181	126	116	164	107	174	176	267	623	938	730
KM												
370					219	161						
360					219	161						
350					216	159						
340					211	153						
330	335				201	145	240					
320	334				189	133	239					
310	326			161	175	119	234					
300	310			161	153	101	224	362				
290	283	389		159	129	79.5	209	361				
280	253	384		155	100	55.0	190	350			1328	
270	219	365		149	73.9	12.4	168	325	679	1050	1328	
260	175	330		139	47.5		143	288	662	1048	1311	1096
250	117	284	335	128			115	236	610	1012	1263	1094
240	52.4	213	328	114			82.9	167	517	923	1184	1065
230		101	304	97.8			56.0	85.5	380	785	1076	995
220			266	75.8			31.0	12.4	164	615	899	893
210			191	49.7					12.4	462	685	744
200			12.4							349	485	586
190										276	351	450
180										228	286	354
170										186	249	301
160										152	215	264
150										126	180	228
140										110	153	189
130										104	138	161
120										96.8	127	149
110										75.1	78.9	78.9

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 24 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	3	A3	A4	4	4	A3	A3	A3	4	F4	F4	F4
HMIN	110	109		109	109		208	201	200	279		219
SCAT	67.8	46.5		48.7	39.0		35.9	39.2	57.6	51.8		45.0
HMAXF	313	276		288	272		268	272	335	394		324
SHMAX	1086	967		948	758		382	205	228	200		197
KM												
400										274		
390										273		
380										269		
370										257		
360										241		
350										221		
340									274	199		
330									273	173		310
320	960								269	143		310
310	960								260	109		303
300	951								246	74.0		289
290	931			1143					230	47.3		265
280	900	1240		1135	1096			417	210	7.1		236
270	862	1235		1104	1095		875	417	187			202
260	811	1203		1046	1070		865	408	162			160
250	747	1143		969	1006		819	384	136			116
240	678	1054		861	911		743	349	112			76.8
230	603	935		736	784		627	296	87.0			48.1
220	530	794		603	629		429	221	61.8			7.1
210	468	623		477	483		105	102	41.4			
200	416	476		387	377							
190	376	382		327	301							
180	345	324		286	254							
170	316	287		255	218							
160	285	260		228	189							
150	253	235		201	162							
140	204	206		176	138							
130	159	166		157	123							
120	148	151		143	115							
110	40.2	68.6		55.6	49.0							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 25 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	4	4	A3	3	3	F4	A4	4	A4	A4	A4	A2
HMIN	218	198	198	238	218	215		200				
SCAT	48.9	43.6	41.3	43.8	46.4	56.9		35.9				
HMAXF	323	288	283	320	320	343		287				
SHMAX	172	204	182	137	139	173		162				
KM												
350						219						
340						219						
330	257				214	216						
320	257			240	214	210						
310	253			237	211	201						
300	243			228	204	187						
290	227	362	335	212	190	171		323				
280	207	359	335	191	172	151		320				
270	183	347	327	163	151	129		304				
260	153	325	308	125	125	103		277				
250	119	296	282	78.5	97.9	78.9		238				
240	82.5	252	243	22.3	72.1	58.8		180				
230	51.2	183	190		50.0	43.6		121				
220	12.4	113	118		12.4	15.7		76.8				
210		60.5	62.7					46.8				
200		12.4	12.4					1.5				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 25 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	2	A2	A2	A2	A2	A2	A2	A2	A2	A2	2	2
HMIN	106						207	200		211	228	199
SCAT	56.7						43.6	32.7		68.1	48.5	64.1
HMAXF	303						279	251		344	328	317
SHMAX	1101						688	255		238	147	113
KM												
350										262		
340										262		
330										260	224	
320										255	223	135
310	1096									246	215	135
300	1095									235	204	133
290	1082									222	189	129
280	1052						1328			205	169	123
270	1006						1315			186	144	116
260	940						1267	670		164	113	109
250	858						1184	670		140	82.8	98.9
240	764						1069	651		114	53.1	86.8
230	665						886	605		80.6	12.4	72.5
220	569						583	515		46.8		57.3
210	484						101	351				41.7
200	420							12.4				4.5
190	375											
180	341											
170	316											
160	294											
150	272											
140	245											
130	208											
120	163											
110	146											

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 26 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	2	2	F2	2	2	3	3	3	4	S4	4	3
HMIN	266	266	239	218	254	235	199	219	210	108	108	109
SCAT	50.3	40.3	29.4	39.8	49.1	43.1	37.6	43.5	45.6	41.5	36.8	46.1
HMAXF	359	334	300	287	341	327	265	291	278	267	256	255
SHMAX	112	112	115	131	125	144	102	131	282	684	826	667
KM												
360	170											
350	168				198							
340	164	219			198							
330	154	218			196	240						
320	143	212			190	238						
310	129	200	286		179	231						
300	111	181	286		164	216		240				
290	90.0	154	277	262	146	194		240				
280	63.3	120	250	260	123	168		236	540			
270	26.2	61.2	209	250	94.3	137	214	226	536	960		
260			156	231	55.9	104	213	210	520	954	1446	865
250			84.7	206		68.6	205	188	489	920	1438	862
240			12.4	168		33.1	190	158	448	858	1380	843
230				110			169	118	388	770	1268	800
220				26.9			137	41.5	263	655	1108	740
210							89.2		12.4	519	804	663
200							12.4			405	518	566
190										322	351	466
180										265	277	378
170										224	231	313
160										189	187	269
150										159	151	233
140										138	131	192
130										118	122	165
120										100	115	146
110										66.8	88.1	78.9

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 26 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	3	3	A2	2	2	A3	A3	3	3	3	3	F2
HMIN	105	109		110	109			185	199	234	207	246
SCAT	60.3	50.2		50.4	57.2			45.0	45.0	41.1	62.1	52.7
HMAXF	285	293		284	297			267	280	312	337	348
SHMAX	805	1081		821	924			389	201	129	157	138
KM												
350												198
340											184	197
330											183	193
320										240	181	185
310										240	174	172
300		1228			1004					235	166	157
290	794	1226		917	1001				348	223	157	138
280	792	1206		916	983				348	204	145	116
270	781	1161		901	948			679	344	178	131	88.0
260	760	1091		866	901			675	329	144	114	57.2
250	725	999		816	837			656	309	100	95.9	23.7
240	682	886		745	746			619	278	48.4	77.5	
230	629	763		664	644			567	238		60.4	
220	568	641		580	541			494	185		44.6	
210	507	528		497	443			397	117		12.4	
200	451	444		424	368			274	12.4			
190	398	384		364	313			99.4				
180	348	335		318	273							
170	306	295		282	240							
160	273	260		250	211							
150	242	230		215	181							
140	200	185		179	150							
130	143	159		154	125							
120	135	149		133	114							
110	122	90.5		12.4	55.6							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	2	2	3	F3	F3	F2	F2	2	2	A2	A2	2
HMIN	237	219	219	219	259	248	199	199	109		109	106
SCAT	62.0	44.5	32.4	53.7	44.2	58.3	41.5	46.3	31.9		35.5	43.1
HMAXF	364	307	283	323	346	365	281	287	233		248	251
SHMAX	183	173	149	185	162	242	153	209	300		648	718
KM												
370	219					310						
360	219					309						
350	216				274	305						
340	210				273	296						
330	202			257	265	281						
320	191			256	248	262						
310	178	298		253	227	239						
300	161	296		245	199	213						
290	140	287	355	230	163	182	280	355				
280	116	270	354	212	120	147	280	353				
270	91.4	247	342	192	77.9	107	275	343				
260	68.6	215	312	169	12.4	63.4	262	325				1004
250	47.9	170	266	143		12.4	242	301			1050	1004
240	12.4	114	194	111			211	264	573		1037	989
230		66.4	90.5	70.9			173	208	572		982	944
220		12.4	12.4	12.4			120	138	549		889	877
210							64.9	75.7	500		736	777
200							12.4	12.4	417		547	631
190									306		407	483
180									200		330	376
170									138		281	311
160									107		240	277
150									86.9		206	253
140									78.7		181	227
130									72.5		156	185
120									63.1		136	157
110									12.4		73.0	139

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	2	2	2	2	2	S1	1	1	4	4	4	2
HMIN	106	109	107	107	107	106	213	184	209	223	200	261
SCAT	48.2	39.2	41.0	46.6	52.1	45.1	31.6	42.6	37.7	43.0	46.4	50.3
HMAXF	268	252	265	266	282	289	276	266	287	328	300	358
SHMAX	783	762	780	701	757	781	487	371	211	195	155	145
KM												
360												219
350												218
340												212
330										310		202
320										308		187
310										297		169
300										277	240	147
290					834	1004			417	249	237	119
280					833	995	1240		414	216	229	86.8
270	917		1050	834	823	960	1230	679	396	180	215	49.0
260	910	1096	1046	831	797	897	1163	675	363	142	196	
250	884	1095	1016	810	752	818	1035	654	317	104	172	
240	836	1068	953	768	697	723	808	612	251	67.2	143	
230	770	1003	862	711	630	615	466	555	178	40.4	111	
220	692	908	743	637	560	498	99.8	472	95.7		77.4	
210	600	779	607	557	487	396		359	12.4		49.4	
200	502	613	475	474	416	314		211				
190	423	470	387	398	354	250		78.4				
180	363	382	332	337	302	206						
170	319	325	296	294	258	170						
160	287	287	264	261	220	141						
150	266	260	229	233	190	119						
140	231	237	198	207	164	99.5						
130	182	212	180	179	140	83.0						
120	156	180	155	156	123	77.3						
110	141	129	144	129	111	71.6						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	2	F2	2	2	2	2	2	2	3	3	3	3
HMIN	227	224	199	199	238	248	246	244	109	111	106	105
SCAT	37.0	50.9	32.3	60.4	67.0	50.8	40.6	41.5	30.2	34.7	36.6	41.8
HMAXF	319	313	255	304	357	352	349	315	238	244	246	248
SHMAX	120	213	113	121	139	125	120	193	436	555	663	665
KM												
360					161	179						
350					160	179	198					
340					158	177	196					
330					154	171	187					
320	219	335			148	162	172	382				
310	215	335		156	141	148	151	381				
300	204	330		156	132	132	126	370				
290	183	318		154	122	113	100	348				
280	156	299		150	110	92.6	77.4	317				
270	125	275		144	91.6	71.5	57.3	270				
260	95.0	244	286	136	71.6	49.3	42.4	190				
250	66.7	201	284	127	51.0	12.4	12.4	68.4		960	1084	917
240	45.6	136	270	115	12.4				865	957	1076	908
230	12.4	60.8	244	98.3					850	921	1029	872
220			201	78.6					788	848	947	810
210			106	56.1					679	718	803	723
200			12.4	12.4					516	549	619	614
190									355	391	440	496
180									234	290	326	399
170									171	233	274	329
160									135	194	241	285
150									111	160	205	250
140									96.2	134	167	214
130									87.0	120	142	178
120									71.7	107	133	154
110									12.4		111	127

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	3	A3	4	4	4	A2	2	2	3	3	3	F3
HMIN	105	105	106	108	109		209	199	203	199	207	251
SCAT	39.5	53.1	49.1	48.0	58.6		45.5	52.8	33.9	49.1	45.0	39.9
HMAXF	258	252	260	291	292		286	316	271	293	298	341
SHMAX	718	677	680	864	924		544	605	297	244	144	135
KM												
350												240
340												240
330												236
320								875				224
310								872				203
300				960	1004			856		389	240	177
290				960	1004		993	821		388	238	144
280				947	993		989	772	679	382	231	108
270				913	968		961	711	679	367	217	71.8
260	917	794	794	857	925		907	628	662	345	198	45.4
250	909	793	786	783	874		835	519	616	316	172	
240	871	783	761	696	803		718	374	539	271	142	
230	803	758	718	607	715		550	230	417	210	102	
220	715	718	660	519	614		315	127	255	138	60.1	
210	614	666	592	444	510		49.0	64.5	82.9	72.6	19.0	
200	520	601	515	383	416			12.4		12.4		
190	447	522	441	336	337							
180	391	433	373	301	277							
170	346	358	323	268	235							
160	307	308	286	239	204							
150	273	276	257	210	176							
140	241	246	230	177	150							
130	203	211	201	152	129							
120	172	178	164	137	118							
110	150	156	143	116	78.9							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 29 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	3	F3	2	2	F2	2	A2	A2	3	3	A3	A2
HMIN	234	249	210	200		298	304	229	110	109		
SCAT	51.9	50.3	35.5	23.4		47.4	48.9	31.0	26.9	34.4		
HMAXF	330	345	287	240		395	397	303	247	261		
SHMAX	176	195	184	89		141	141	157	488	733		
KM												
400						219	219					
390						218	218					
380						214	212					
370						204	202					
360						188	186					
350		298				169	167					
340		297				146	144					
330	262	291				118	116					
320	260	278				87.6	81.6					
310	253	263				55.9	41.8	362				
300	241	239				12.4		360				
290	224	208	389					345				
280	204	170	385					311				
270	176	120	365					256		1215		
260	141	68.5	332					184		1215		
250	96.4	12.4	280					107	1096	1185		
240	47.9		208	310				57.3	1075	1103		
230			111	297				4.9	983	968		
220			56.2	258					782	773		
210				172					507	566		
200				12.4					309	411		
190									216	328		
180									166	273		
170									131	230		
160									107	193		
150									90.7	163		
140									81.0	139		
130									74.9	123		
120									66.3	114		
110									12.4	80.1		

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 29 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	2	2	2	2	A2	2	A2	2	A1	A1	1	3
HMIN	109	108	106	109		109	210	208	217	209	224	213
SCAT	42.1	51.7	47.9	53.8		41.6	45.9	42.8	31.6	37.1	47.5	51.8
HMAXF	255	275	272	296		277	294	299	280	283	324	308
SHMAX	797	870	855	923		731	504	385	241	202	181	174
KM												
330											280	
320											279	
310											274	262
300				1004			875	679			263	261
290				1001			873	671	573	417	245	255
280		949	1004	982		1050	854	644	573	417	220	243
270		947	1004	945		1041	812	600	558	405	191	227
260	1096	930	988	892		1003	754	536	514	377	157	208
250	1093	893	950	821		933	667	449	440	337	119	181
240	1063	841	891	736		837	552	328	332	274	72.4	144
230	1006	774	811	638		714	384	200	197	188	38.8	98.0
220	911	701	709	543		575	185	101	59.9	100		48.5
210	790	625	599	461		438	12.4	26.9		12.4		
200	650	546	499	390		325						
190	521	469	417	332		248						
180	411	403	359	286		199						
170	340	347	318	245		165						
160	300	304	285	207		139						
150	267	270	260	172		118						
140	228	230	237	152		100						
130	190	190	219	140		92.3						
120	171	171	181	133		86.2						
110	136	137	143	76.1		43.8						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 30 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	3	3	1	1	1	2	2	2	0	0	0	0
HMIN	217	228	240	208	269	268	232	250	109	107	106	109
SCAT	49.8	42.8	45.8	35.0	44.7	46.1	50.5	35.6	31.8	32.0	33.2	32.9
HMAXF	306	308	322	274	356	353	333	306	247	238	248	235
SHMAX	163	107	122	91	119	129	161	155	457	542	695	538
KM												
360					198	214						
350					198	213						
340					192	210	240					
330			208		182	201	240					
320			208		167	187	236					
310	257	193	205		147	169	228	362				
300	256	192	196		121	144	215	359				
290	250	185	183		92.0	113	200	343				
280	239	173	165	198	62.8	79.8	177	313				
270	224	176	141	198	12.4	25.6	146	269				
260	203	134	108	191			109	186				
250	175	102	67.8	175			72.0	12.4	875		1215	
240	138	63.6	1.2	153			43.0		864	960	1198	917
230	88.3	12.4		120					811	944	1128	911
220	36.8			76.4					715	878	1002	866
210				23.7					553	774	780	780
200									373	637	570	646
190									254	472	402	484
180									186	326	310	358
170									145	248	265	298
160									119	204	227	256
150									100	169	190	213
140									86.7	141	157	175
130									78.3	124	141	157
120									70.7	116	134	148
110									42.1	94.1	123	55.6

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 30 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	0	0	0	0	0	1	1	1	2	2	F2	F2
HMIN	107	107	108	107	105	105	203	203	208	220		238
SCAT	42.0	54.0	45.1	51.5	42.2	42.3	38.3	46.1	58.4	48.8		38.9
HMAXF	249	250	275	281	267	266	262	278	303	308		314
SHMAX	635	581	755	738	662	682	354	280	296	155		131
KM												
320												251
310									417	246		250
300									417	244		243
290				794					412	236		225
280			875	794				500	400	223		201
270			872	785	865	1004	794	496	383	207		171
260		661	850	761	858	999	793	481	365	186		131
250	834	661	803	721	828	968	775	455	334	161		82.5
240	825	655	739	667	776	908	729	419	290	128		23.7
230	793	636	658	603	698	821	657	360	231	80.6		
220	734	608	567	530	604	698	542	279	157			
210	660	568	484	462	503	540	308	169	48.9			
200	569	520	416	406	410	402						
190	474	463	369	360	336	294						
180	395	401	334	321	282	225						
170	337	343	304	285	242	185						
160	301	299	274	250	209	153						
150	270	269	241	214	180	131						
140	231	236	201	175	156	114						
130	191	196	168	147	137	98.4						
120	169	172	153	136	123	90.9						
110	138	141	129	122	114	83.9						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 31 JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q.KP	F2	2	1	1	1	0	0	0	0	0	A0	0
HMIN	228	239	220	199	198	237	246	238	110	106	107	109
SCAT	49.8	39.0	34.1	31.1	35.6	47.2	46.8	37.0	29.1	41.0	45.5	35.9
HMAXF	332	313	283	255	252	338	332	299	246	256	254	262
SHMAX	149	112	88	107	42	108	151	183	490	664	756	825
KM												
340	219					165	251					
330	219					164	251					
320	216	219				159	247					
310	208	218				149	237					
300	196	213				138	223	410				
290	180	200	198			123	202	404				
280	160	179	198			104	173	382				
270	134	152	191			84.0	135	349				1215
260	107	118	175	274	97.2	63.2	86.9	293		1004	1050	1215
250	76.8	76.0	151	272	97.1	44.8	40.2	198	960	1000	1047	1183
240	51.6	12.4	119	258	94.5	12.4		50.1	950	968	1025	1105
230	12.4		76.5	231	88.0				886	905	975	979
220			1.2	188	78.1				768	813	903	816
210				113	65.9				591	681	797	642
200				12.4	34.9				414	530	663	502
190									291	382	520	404
180									215	282	386	346
170									169	233	303	307
160									135	195	261	279
150									110	160	222	255
140									92.0	132	183	221
130									81.0	112	152	181
120									73.9	104	137	155
110									12.4	97.2	127	97.2

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 31 JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q.KP	0	A0	1	1	1	0	0	0	1	1	1	1
HMIN	108	108	108	109	109	107	204	190	212	218	230	223
SCAT	49.3	47.1	59.7	41.0	56.8	39.6	33.1	63.5	50.4	42.4	51.0	40.3
HMAXF	266	277	270	274	297	273	261	294	303	321	329	303
SHMAX	961	696	756	736	946	798	475	288	199	191	179	117
KM												
330										310	262	
320										310	260	
310									310	305	253	219
300					1004			362	310	291	241	219
290					1001			361	305	268	222	213
280			794	896	983	1240		357	293	238	200	202
270	1240		794	893	948	1238	1215	349	276	200	174	182
260	1235	834	788	866	899	1204	1215	336	254	160	144	157
250	1206	829	771	812	835	1130	1185	317	223	121	108	125
240	1152	806	741	741	749	1018	1102	295	181	79.6	62.0	82.9
230	1068	759	701	659	661	859	946	269	131	50.0	4.1	43.7
220	957	703	653	568	575	672	670	238	62.5	12.4		
210	792	628	594	486	489	494	163	201				
200	624	546	525	419	410	344		155				
190	484	469	450	366	344	255		12.4				
180	384	403	380	322	289	201						
170	326	350	327	283	246	166						
160	289	307	289	247	212	138						
150	255	275	255	215	183	117						
140	221	239	220	186	159	98.4						
130	196	200	196	153	135	91.7						
120	174	173	173	136	120	85.8						
110	129	137	122	116	100	69.8						

AVERAGE ELECTRON DENSITY — KP BELOW 4.5

RAMEY AFB, PUERTO RICO — 60 W — JAN 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
COUNT	28	29	25	27	24	28	27	29	27	25	24	23
KP	2.3	2.2	2.3	2.2	2.0	2.0	1.9	2.0	2.0	1.8	1.9	1.7
HMIN	242	233	218	219	241	237	232	216	143	109	108	108
RATIO	5.6	6.4	7.0	6.6	5.3	5.3	5.5	6.4	6.5	5.6	5.6	5.0
SCAT	46.4	41.7	37.4	40.7	50.8	50.1	49.1	40.9	35.5	37.3	39.0	42.9
NMAX	282	340	306	266	206	237	205	327	804	1179	1336	1126
HMAXF	338	314	289	297	340	336	327	296	260	259	255	257
SHMAX	172	185	146	140	138	155	131	173	423	728	833	809
SHINF	966	1145	1009	890	718	822	710	1095	2691	4054	4600	3985
KM												
950	21.6	23.5	18.5	16.9	16.7	18.3	15.2	20.6	42.1	61.6	68.3	58.6
900	27.8	30.1	23.8	21.7	21.4	23.5	19.5	26.4	54.0	79.1	87.7	75.3
850	35.6	38.6	30.5	27.8	27.4	30.2	25.0	33.9	69.3	101	113	96.6
800	45.6	49.5	39.1	35.7	35.1	38.7	32.0	43.5	88.9	130	144	124
750	58.4	63.4	50.1	45.7	44.9	49.5	41.0	55.7	114	167	185	159
700	74.6	81.1	64.1	58.4	57.3	63.2	52.4	71.2	146	214	237	203
650	94.9	103	81.9	74.5	72.8	80.4	66.6	91.0	187	273	303	260
600	120	131	104	94.7	91.9	102	84.4	116	238	349	387	332
550	151	165	132	120	115	127	106	146	302	443	492	422
500	186	205	165	149	141	157	131	183	381	559	621	532
450	223	249	204	183	168	188	157	225	475	696	775	663
440	231	258	212	190	173	194	163	234	496	726	808	691
430	238	267	220	197	178	200	168	243	516	757	843	720
420	245	276	228	204	182	206	173	251	538	788	878	750
410	251	285	236	211	187	211	178	260	559	820	913	780
400	257	293	245	218	190	216	182	269	581	852	949	810
390	263	301	253	224	194	221	186	277	603	884	986	841
380	267	308	260	230	196	225	190	286	624	916	1022	871
370	271	314	268	236	197	227	193	293	646	948	1058	901
360	274	320	275	242	197	229	195	301	667	979	1094	931
350	274	324	281	246	195	230	195	307	688	1009	1129	960
340	272	327	287	250	191	228	195	313	708	1038	1162	987
330	266	328	292	252	184	223	193	318	726	1066	1195	1014
320	256	326	296	253	174	215	189	322	744	1092	1225	1038
310	241	319	298	251	162	205	182	324	759	1115	1252	1060
300	221	307	298	245	145	189	172	324	773	1135	1277	1079
290	195	290	295	238	124	169	161	319	784	1152	1298	1095
280	162	264	287	229	106	146	147	307	793	1165	1314	1106
270	130	232	271	215	88.7	118	128	285	796	1172	1325	1112
260	97.9	191	246	196	71.4	90.7	107	250	788	1169	1328	1108
250	69.3	147	212	172	52.8	64.7	84.5	199	765	1145	1316	1091
240	41.1	96.2	164	140	37.5	42.9	60.3	144	716	1086	1274	1055
230	17.9	52.5	111	104	27.7	26.5	38.2	95.3	625	983	1189	994
220	6.4	21.0	62.2	66.5	18.2	14.3	18.3	53.8	481	835	1056	901
210	2.0	6.7	24.0	32.1	10.7	5.9	6.6	22.9	346	653	855	774
200	.4	.4	2.0	1.9	1.6		.9	1.0	243	483	628	627
190									173	354	441	483
180									125	272	331	381
170									95.8	220	272	315
160									76.5	182	232	273
150									64.0	151	197	236
140									57.0	129	166	199
130									51.6	115	144	166
120									44.7	105	130	148
110									12.7	61.6	95.1	103

AVERAGE ELECTRON DENSITY — KP BELOW 4.5

RAMEY AFB, PUERTO RICO — 60 W — JAN 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
COUNT	23	21	15	23	19	10	24	26	28	28	26	29
KP	1.6	1.6	1.4	1.7	1.5	1.1	1.7	1.8	2.1	2.1	1.8	2.1
HMIN	107	108	107	108	108	108	209	198	212	232	225	235
RATIO	4.3	4.3	4.3	4.4	4.5	4.9	7.2	6.7	5.5	5.6	5.6	5.3
SCAT	52.5	49.8	53.0	49.2	48.5	45.2	38.5	42.6	49.9	46.7	47.1	49.9
NMAX	1017	1125	1126	1049	988	1027	1038	578	342	312	284	258
HMAXF	276	278	285	280	278	276	278	274	309	328	320	335
SHMAX	908	963	1003	884	802	742	488	300	219	191	178	169
SHINF	3777	4135	4180	3844	3589	3639	3416	1930	1185	1071	978	896
KM												
950	59.1	66.0	68.6	61.4	57.6	58.8	59.9	32.4	22.8	22.8	20.6	20.0
900	75.8	84.8	88.1	78.8	74.0	75.5	76.8	41.6	29.3	29.2	26.4	25.7
850	97.3	109	113	101	94.9	96.9	98.6	53.4	37.6	37.5	33.9	33.0
800	125	140	145	130	122	124	126	68.5	48.2	48.0	43.4	42.2
750	160	179	186	166	156	159	162	87.9	61.7	61.5	55.6	54.0
700	205	229	238	213	200	204	207	112	78.9	78.5	71.0	69.0
650	262	292	303	272	255	261	265	144	101	100	90.5	87.8
600	333	372	386	346	325	332	338	183	128	127	115	111
550	422	471	488	438	411	421	428	232	161	159	144	139
500	529	591	611	550	516	528	537	292	201	197	178	171
450	654	731	752	680	639	655	665	362	245	238	215	205
440	681	760	782	708	665	682	693	377	254	246	222	211
430	708	790	812	736	691	709	721	392	263	254	230	218
420	735	821	842	765	718	737	749	407	272	262	237	224
410	762	851	872	793	745	765	777	423	281	270	243	229
400	790	881	902	821	771	792	805	438	290	277	250	235
390	816	911	931	849	798	820	833	454	298	284	256	239
380	843	940	960	877	823	847	860	469	306	290	261	243
370	868	968	987	903	849	874	887	484	313	294	265	245
360	893	995	1012	928	873	899	912	498	319	298	268	247
350	916	1020	1035	952	895	923	937	512	325	301	270	246
340	937	1043	1057	974	916	946	959	525	329	302	270	244
330	956	1064	1075	994	935	966	980	537	332	300	268	239
320	972	1082	1090	1011	951	984	997	547	333	295	262	231
310	986	1096	1099	1025	964	999	1012	556	330	286	254	219
300	995	1104	1103	1034	973	1011	1023	562	325	271	242	202
290	998	1106	1099	1039	976	1017	1027	565	316	251	227	182
280	994	1100	1085	1035	972	1016	1023	565	302	224	206	156
270	981	1082	1059	1017	956	1006	1002	559	282	191	182	130
260	954	1047	1016	982	926	977	954	545	256	153	151	103
250	913	991	956	928	875	922	867	518	222	113	121	75.3
240	857	911	876	855	800	842	727	473	181	76.4	93.5	51.7
230	784	811	782	765	708	738	526	411	132	42.4	66.0	35.5
220	699	699	678	662	605	612	302	327	83.1	20.5	38.5	22.0
210	607	587	569	555	501	480	96.3	209	36.0	5.8	14.8	12.1
200	516	490	472	456	410	360	7.1	68.3	1.9	.4	.5	3.4
190	439	414	394	375	336	271		13.1				1.0
180	374	376	336	314	278	211						
170	324	311	293	269	234	170						
160	286	276	256	234	199	139						
150	254	246	224	203	169	116						
140	219	216	195	175	144	98.9						
130	180	182	174	153	125	88.2						
120	157	161	156	138	114	81.0						
110	121	110	111	92.0	68.8	51.1						

OCTOBER 1960 - SEPTEMBER 1954

Table 1

Thule, Greenland (76.0° N, 68.0° W) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.05)	12	275				2.6	(2.80)
01		(3.55)	10	282				1.8	(2.60)
02		(3.55)	12	270				2.6	(2.70)
03		(3.55)	16	269				2.2	(2.60)
04		(3.15)	8	255					----
05		(3.6)	8	<271		---	----	2.9	(2.85)
06		(4.0)	11	268		119	1.50	2.6	(2.90)
07		(4.3)	19	256		119	1.75		(2.98)
08	---	(4.6)	19	260	---	112	1.82	2.0	(2.90)
09	---	(5.0)	23	254	---	111	1.90	2.1	(3.00)
10	---	(5.45)	24	258	---	110	2.00	2.0	(2.95)
11	---	(5.5)	23	256	---	109	2.05	2.2	(2.85)
12	---	(5.8)	22	248	---	107	2.02	2.2	(3.00)
13	---	(5.85)	22	247	---	108	2.10	2.4	(2.90)
14	---	(5.5)	25	254	---	110	1.80	2.4	(2.98)
15	---	(5.7)	21	255	---	103	----	3.3	(2.95)
16	---	(5.7)	18	257	---	---	----	3.8	(2.95)
17		(5.55)	18	248		---	----	3.6	(2.85)
18		(5.3)	16	253		---	----	4.1	(2.80)
19		(5.2)	17	250				3.0	(2.80)
20		(4.65)	16	267				2.4	(2.70)
21		(4.2)	12	255				2.7	(2.70)
22		(4.0)	13	276				2.0	(2.65)
23		(3.8)	13	265				3.4	(2.68)

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 2

Resolute Bay, Canada (74.7° N, 94.9° W) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.6	29	285					2.80
01		5.2	25	280					(2.85)
02		(5.4)	20	300					----
03		5.3	17	295					----
04		5.4	20	285		---	----		(2.70)
05		(5.5)	20	290		---	----		----
06		(5.6)	26	280		---	----		(2.70)
07		(5.4)	29	280		---	1.70		----
08	---	5.6	29	280	---	---	1.75		2.80
09	---	5.8	30	280	---	110	1.80		2.80
10	---	6.0	31	260	---	---	(2.10)		2.85
11	---	5.9	28	280	---	---	2.10		2.80
12	---	6.0	28	260	---	125	2.15		(2.80)
13	---	6.0	30	260	---	120	2.20		2.80
14	---	6.2	30	260	---	---	2.10		2.90
15	---	6.6	31	270	---	---	1.85		2.80
16	---	6.0	31	280	---	---	1.80		2.85
17		5.9	29	260		---	1.75		(2.95)
18		6.0	29	260		---	----		2.95
19		5.8	29	275		---	----		2.70
20		5.6	27	285					(2.90)
21		4.8	26	280					(2.70)
22		(5.3)	27	290					----
23		5.0	28	280					----

Time: 90.0°W.
Sweep: 1.5 Mc to 20.0 Mc in 15 seconds.

Table 3

Tromso, Norway (69.7° N, 19.0° E) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		---	0	---				4.0	
01		(4.0)	2	---				4.3	
02		(4.0)	1	(310)		---	----	3.8	
03		(4.0)	5	(295)		---	----	3.9	
04		(4.0)	6	295		---	----	2.9	
05		(3.9)	11	280		---	----	1.7	----
06		4.4	17	265		---	----	1.2	(2.70)
07	---	5.3	15	255		---	----	1.8	2.90
08	(245)	6.5	16	(250)		---	----		2.90
09	(240)	8.0	17	---	---	---	----		2.90
10	245	8.0	22	---	---	---	----	2.3	2.90
11	245	8.1	25	(250)	---	125	2.50		2.95
12	240	7.6	25	(250)	---	---	2.55		3.00
13	240	6.8	24	(260)		---	2.40		3.05
14	245	7.1	21	---		---	2.25		3.05
15	(240)	6.1	21	245		---	----	2.6	2.95
16		5.8	16	245		---	----	3.2	(2.90)
17		(4.5)	11	245		110	----	3.8	2.90
18		(4.2)	8	(250)		---	----	4.2	----
19		(4.7)	7	---				4.5	
20		(3.8)	3	(285)				4.5	
21		(4.0)	3	(260)				4.8	
22		(4.0)	1	---				4.0	
23		(4.4)	4	---				3.7	

Time: 15.0°E.
Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 4

Kiruna, Sweden (67.8° N, 20.3° E) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(3.8)	5	(350)				4.8	----
01		(2.5)	1	(315)				5.0	----
02		(4.0)	1	310		---	---	4.4	
03		(3.4)	8	320		---	---	3.4	(2.55)
04		(3.5)	8	295		---	---	3.2	(2.6)
05		3.2	13	290		---	---		2.8
06		3.6	13	275		---	---		2.8
07		5.0	19	265		---	1.6		2.9
08		6.1	19	250		---	2.0		3.0
09	---	6.3	22	245	---	---	2.2		2.9
10	(410)	6.9	27	240	---	110	2.5		3.0
11	---	7.2	24	245	3.8	---	2.5		3.0
12	---	7.4	28	240	---	---	2.4		3.0
13	---	6.5	29	240	---	---	2.4		3.0
14		7.0	26	250		---	2.3		3.0
15		7.0	24	240		---	2.0	4.1	3.05
16		6.0	21	240		---	1.7	3.0	3.0
17		5.4	14	250		---	---	4.0	3.0
18		4.6	16	240				3.6	2.8
19		3.6	11	255				4.6	(2.8)
20		(4.3)	8	325				3.6	(2.8)
21		(5.0)	7	330				4.0	(2.7)
22		(5.0)	6	340				4.4	----
23		(4.4)	7	360				4.6	(2.5)

Time: 15.0°E.
Sweep: 0.8 Mc to 15.0 Mc in 30 seconds.

Table 5

Sodankyla, Finland (67.4° N, 26.6° E) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		---	0	350				(3.8)	
01		(5.0)	2	350				(3.6)	----
02		(4.0)	2	355				(3.5)	----
03		(4.0)	3	325				(3.4)	----
04		(3.7)	1	315				(3.3)	----
05		(3.3)	2	290				(3.0)	----
06		(3.9)	4	280		---	E	(2.8)	----
07		5.0	12	285		---	E	(3.2)	2.95
08		6.3	12	260	---	---	1.80	(3.4)	3.00
09		7.0	21	270	---	---	----	(3.3)	2.95
10		7.6	20	250	---	135	2.60	(3.5)	3.00
11		7.6	25	250	---	130	2.65	(3.3)	2.95
12		8.5	24	240	---	125	2.70	(3.6)	3.00
13		9.3	15	240	---	130	2.50	(3.7)	3.00
14		9.7	13	250	---	130	2.50	(3.7)	2.95
15		9.0	21	260	---	135	2.30	(3.3)	3.00
16		9.2	13	240		165	2.00	(3.5)	3.05
17		(7.9)	9	260		---	----	(3.3)	(3.00)
18		(7.2)	6	255		---	E	(3.3)	(2.95)
19		(6.5)	5	260		---	----	(3.8)	(2.95)
20		(5.9)	5	305		---	----	(3.7)	(2.75)
21		(6.4)	4	330		---	----	4.1	----
22		(5.4)	2	330				3.8	----
23		(5.2)	2	360				4.2	----

Time: 30.0°E.
Sweep: 1.4 Mc to 22.0 Mc in 8 minutes, automatic operation.

Table 6

Lulea, Sweden (65.6° N, 22.1° E) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.7	10	320		---	---	(2.2)	(2.5)
01		3.6	10	320				(2.2)	2.55
02		3.9	11	310				(1.9)	(2.8)
03		(3.8)	8	300					(2.8)
04		3.6	13	290					2.9
05		3.1	15	280		---	---		2.8
06		3.7	19	260		---	---		2.9
07		5.4	14	260		---	2.0		3.05
08		6.6	17	250		---	2.3		3.0
09		8.0	19	250		130	2.4		3.1
10	---	8.0	20	250	---	125	2.6		3.1
11	---	9.0	19	250	---	130	2.5		3.0
12	---	9.4	19	240	---	120	2.6		3.05
13		8.0	23	240		125	2.6		3.1
14		7.4	24	245		140	2.4		3.1
15		7.8	22	250		125	2.2		3.0
16		8.2	18	250		---	1.9		3.1
17		7.6	13	235				2.2	3.0
18		6.6	11	245				(2.1)	2.9
19		5.4	10	260				2.1	(2.9)
20		(3.8)	9	250				(2.3)	(2.8)
21		(4.6)	9	280				(2.4)	(2.85)
22		(4.4)	7	(290)				(2.2)	(2.6)
23		(4.2)	7	310				(2.3)	(2.6)

Time: 15.0°E.
Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 7

Lycksele, Sweden (64.6° N, 18.8° E) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		(4.3)	19	320		---	E	3.2	2.4
01		4.1	21	350		---	E	2.8	2.4
02		4.2	21	300		---	E	3.0	2.5
03		3.8	17	305		---	E	2.8	2.5
04		3.8	18	290		---	E	2.3	2.55
05		3.5	22	260		---	E	2.2	2.6
06		3.9	23	260		130	1.05	2.2	2.7
07		4.9	25	255		100	1.80	2.6	2.9
08		5.8	24	240		100	2.10	3.3	2.95
09	---	6.9	22	240	---	100	2.30	3.2	2.95
10	---	7.7	25	235	---	100	2.50	3.2	3.0
11	---	8.7	25	235	---	100	2.60	3.2	2.9
12	---	8.9	24	230	---	110	2.70	3.4	3.0
13	---	8.0	27	230	---	105	2.50	3.0	3.0
14		7.5	29	240		100	2.35	2.7	3.0
15		8.2	25	240		100	2.10	2.7	3.0
16		7.0	25	245		---	1.70	3.2	3.0
17		5.9	22	240		---	----	3.1	3.0
18		5.8	17	240		---	E	3.4	2.8
19		(4.7)	17	255		---	E	3.0	2.85
20		(4.2)	15	260		---	E	3.5	(2.7)
21		3.9	17	285		---	E	3.2	2.6
22		(4.2)	19	290		---	E	3.2	2.6
23		4.0	15	310		---	E	2.8	2.4

Time: 15.0°E.
Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.
Occasionally, 1.4 Mc to 16.0 Mc in 6 minutes, automatic operation.

Table 8

Nurmijarvi, Finland (60.5° N, 24.6° E) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(3.9)	3						----
01		(4.1)	2						----
02		(4.2)	3						----
03		(3.2)	2						----
04		(3.8)	3						----
05		(2.8)	5						(2.70)
06		(3.2)	7						(2.90)
07		4.0	10						3.00
08		5.3	20		---				3.10
09		6.0	20		---				3.10
10		6.7	23		---				3.05
11		8.3	24		---				3.10
12		9.4	25		---		---		3.05
13		9.8	28		---		---		3.10
14		9.8	24		---				3.10
15		8.8	19						3.15
16		9.8	21						3.15
17		8.3	13						3.20
18		(7.9)	8						(3.05)
19		(7.3)	5						(3.00)
20		(5.2)	4						----
21		(6.6)	2						----
22		(3.5)	4						----
23		(5.9)	1						----

Time: 30.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 1 minute.

Table 9

Upsala, Sweden (59.8° N, 17.6° E) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		(3.9)	20	330		---	E	2.2	(2.5)
01		(3.6)	20	310		---	E	2.5	(2.5)
02		(3.1)	21	305		---	E	2.8	(2.5)
03		(2.9)	18	310		---	E	2.3	(2.6)
04		3.0	18	305		---	E	2.3	(2.6)
05		(2.9)	24	290		---	E	2.2	(2.6)
06	---	3.5	29	280	---	115	1.35	2.3	2.75
07	---	5.0	29	255	---	(110)	1.90	2.6	3.0
08	---	6.0	31	245	3.5	<110	2.20	2.5	3.1
09	---	6.6	30	240	3.9	(110)	2.45	2.5	3.0
10	(390)	6.9	28	240	4.2	(105)	2.60	2.9	3.0
11	(350)	8.0	27	230	4.3	<110	2.70	3.0	3.0
12	---	9.3	28	230	---	<110	2.70		3.0
13	---	9.7	28	240	---	(110)	2.70		3.0
14	---	9.0	28	240	---	(105)	2.50		3.0
15		8.8	27	235		(105)	2.20	2.2	3.1
16		7.9	27	235		<110	1.90	2.0	3.1
17		8.1	23	240		125	1.40	2.5	3.0
18		7.3	21	240		---	E	2.6	2.9
19		6.2	20	245		---	E	2.2	2.9
20		5.0	19	275		---	E	2.4	2.9
21		4.7	15	300		---	E	2.2	2.8
22		4.2	16	315		---	E	2.2	2.65
23		(3.8)	22	320		---	E	2.3	(2.6)

Time: 15.0°E.
Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.
Occasionally, 1.4 Mc to 17.0 Mc in 6 minutes, automatic operation.

Table 10

Churchill, Canada (58.8° N, 94.2° W) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.1	25	300				5.1	
01		4.2	25	295				4.1	
02		3.8	24	300				4.2	
03		4.0	24	315				4.2	
04		4.0	23	310				2.6	----
05		4.2	16	(350)				3.9	----
06		4.1	16	(330)				3.8	----
07		4.1	20	300		---	----	3.0	----
08	---	5.1	25	290	---	110	2.50		3.10
09	G	6.0	24	265	3.7	110	2.80		3.00
10	(420)	6.4	26	265	4.2	110	3.00		3.00
11	400	7.2	29	240	(4.2)	110	3.00		2.95
12	370	7.9	27	250	(4.1)	105	3.00		2.95
13	340	8.9	29	245	4.2	110	3.00		2.90
14	310	8.9	30	250	4.1	110	3.00		2.85
15	(430)	8.4	30	260	4.0	110	2.70		2.95
16	---	6.6	29	270	---	120	2.30		2.90
17	---	5.8	30	290	---	120	1.80	3.0	(2.90)
18	---	5.1	31	300	---			3.3	(2.90)
19		4.9	31	310				3.5	
20		4.5	29	315				3.8	
21		4.5	27	300				4.0	
22		4.2	22	285				6.0	
23		4.4	27	275				5.6	

Time: 90.0°W.
Sweep: 1.0 Mc to 17.0 Mc in 16 seconds.

Table 11

Inverness, Scotland (57.4° N, 4.2° W) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(3.1)	30	340				<1.3	2.50
01		(3.0)	28	320				<1.1	2.50
02		(2.8)	27	320				1.3	(2.60)
03		>2.6	25	320				<1.2	2.55
04		2.7	27	300				<1.5	2.65
05		>2.4	30	300				<1.6	2.65
06		>2.8	29	280				<1.3	2.70
07	---	4.4	30	260		---	1.85		2.80
08	---	5.4	30	250	---	120	2.30		3.00
09	---	6.5	29	250	---	120	2.60		3.00
10	(560)	7.2	30	240	---	120	2.70		3.00
11	---	8.2	29	240	4.2	120	2.90		3.00
12	---	8.0	29	240	---	120	2.95		2.95
13	---	9.0	29	240	---	120	2.90		3.00
14	---	8.2	28	240	---	120	2.85		2.95
15	---	8.4	26	250	---	120	2.65		2.95
16	---	8.0	24	250	---	120	2.35		2.95
17		7.4	28	250	---	---	2.10		2.95
18		(7.4)	26	250			----	<1.7	(2.90)
19		(4.4)	28	250				<1.6	2.90
20		(4.2)	25	260				<1.6	2.90
21		(3.5)	26	290				<1.6	2.70
22		(3.2)	28	320				<1.6	2.60
23		(3.5)	23	330				<1.6	(2.50)

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 12

De Bilt, Holland (52.1° N, 5.2° E) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		4.2	30	310				2.4	2.55
01		4.0	30	305				2.2	2.55
02		3.8	29	310				2.4	2.60
03		3.5	29	320				2.3	2.70
04		3.0	27	(300)				2.3	2.80
05		2.9	29	295				2.3	2.80
06	---	4.1	30	270	---	---	1.6	2.6	3.00
07	---	5.8	29	240	3.6	120	2.1	2.3	3.20
08	260	6.6	31	220	4.1	105	2.6	2.8	3.20
09	260	7.1	31	215	4.1	100	2.8	3.4	3.20
10	250	9.2	31	215	4.4	100	3.1	3.7	3.20
11	230	9.1	31	205	4.4	100	3.2	3.5	3.15
12	235	10.0	31	210	4.4	100	3.2	3.3	3.10
13	250	10.3	31	215	4.1	100	3.1		3.10
14	(230)	9.8	31	220	---	100	2.9		3.20
15	(230)	9.6	31	220	---	105	2.5	2.6	3.20
16	---	8.8	31	220		120	2.0	2.5	3.20
17		8.3	31	215		---	E	2.3	3.10
18		7.1	31	220				2.6	3.10
19		5.9	30	230				2.7	3.10
20		4.9	31	245				2.3	2.90
21		4.6	30	280					2.70
22		4.2	30	290					2.65
23		4.0	31	305					2.55

Time: 0.0°.
Sweep: 1.4 Mc to 16.0 Mc in 40 seconds.

Table 13

Winnipeg, Canada (49.9° N, 97.4° W) October 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.5	12	300					(2.75)
01		3.2	14	330					(2.70)
02		3.0	14	<320					(2.80)
03		3.0	15	310					2.80
04		3.4	14	330					(2.80)
05		3.1	14	300					----
06		2.9	15	(320)					(2.75)
07		4.8	17	270		---	1.80		3.00
08		6.0	18	250		125	2.35		3.10
09	---	7.0	17	235		120	2.70		3.10
10	---	7.9	17	220	---	115	3.00		3.00
11	---	7.8	19	220	---	110	3.10		2.90
12	(370)	8.3	20	220	4.6	110	3.25		2.90
13	(320)	9.0	21	225	---	110	3.30		2.85
14	(330)	9.5	19	235	---	115	3.10		2.90
15	---	9.8	20	240	---	115	2.95		2.90
16	---	10.0	19	250	---	120	2.60		2.90
17		9.4	21	250		---	2.25		3.00
18		9.0	21	240		---	----		2.95
19		7.2	22	240					2.90
20		6.4	20	250					2.95
21		5.6	19	260					2.95
22		4.5	17	270					2.90
23		4.0	16	260					(2.80)

Time: 90.0°W.
Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 14

St. John's, Newfoundland (47.6° N, 52.7° W) October 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3.9	20	300					2.65
01		3.9	24	290					2.70
02		3.4	22	295					2.65
03		3.5	20	295					2.70
04		3.3	21	290					2.65
05		3.2	22	300					2.70
06		4.9	25	250					3.00
07	---	7.2	25	235	---	---	----		3.05
08		8.6	26	230		110	2.70		3.10
09	---	8.9	28	220	---	105	3.00		3.05
10	---	9.1	28	210	---	105	----		2.95
11	---	10.0	27	220	---	100	3.50		2.90
12	---	10.2	27	220	---	105	3.10		2.90
13	---	10.3	27	230	---	110	3.10		2.85
14	---	10.8	26	235	---	125	----		2.80
15	---	10.3	26	240	---	---	----		2.90
16		9.8	27	240		---	----		2.90
17		9.2	25	230					2.85
18		8.1	22	240					2.85
19		6.9	16	240					2.70
20		5.2	18	280					2.50
21		4.8	20	300					2.60
22		4.4	20	300					2.60
23		4.6	17	305					2.60

Time: 60.0°W.
Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 15

Sottens, Switzerland (46.6° N, 6.7° E) October 1960

Time	h'F2	foF2—Count		h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	4.4	25						2.7
01	320	4.4	27						2.7
02	300	4.3	26						2.7
03	300	4.2	25						2.8
04	300	4.1	25						2.8
05	260	4.0	24						2.9
06	280	3.4	23						2.9
07	240	5.0	25			---	---		3.1
08	240	7.6	25			120	2.3		3.3
09	240	8.5	23			110	2.7	3.3	3.3
10	240	8.6	25			110	2.9	4.1	3.3
11	250	9.6	23			110	3.2	4.2	3.35
12	240	9.6	24			110	3.2	3.8	3.25
13	240	9.6	24			110	3.1	3.7	3.3
14	240	9.2	26			100	3.0		3.4
15	240	9.3	27			110	2.9	3.0	3.3
16	240	9.2	26			110	2.7		3.3
17	230	9.0	26			120	2.2		3.4
18	230	8.3	25			---	---		3.2
19	230	7.6	22					3.0	3.2
20	230	6.4	18						3.1
21	260	5.4	24						2.9
22	290	5.2	18						2.9
23	290	4.5	21						2.8

Time: 15.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 16

Ottawa, Canada (45.4° N, 75.9° W) October 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.1	28	300					----
01		4.0	24	300					----
02		3.8	24	300					----
03		4.0	22	290					----
04		3.6	24	300					----
05		3.3	23	300					----
06		3.8	23	280		---	1.5		----
07		5.9	28	255		125	2.1		3.10
08	---	7.4	28	235	---	120	2.7		3.20
09	(260)	8.1	29	230	---	110	3.0		3.20
10	280	8.8	30	210	4.2	110	3.2		3.10
11	(330)	9.3	30	210	4.3	110	3.3		3.10
12	300	9.9	29	210	(4.5)	110	3.4		3.00
13	290	10.1	29	220	(4.5)	110	3.3		3.00
14	(290)	10.1	31	240	---	110	3.2		3.00
15	---	10.5	31	240	---	110	3.0		3.00
16	---	10.4	30	250		110	2.6		3.00
17		10.0	30	240		130	2.0		(3.05)
18		8.3	30	240		---	---		(3.05)
19		7.4	28	250					(3.00)
20		6.3	27	250					----
21		5.7	26	300					(2.90)
22		4.7	26	300					(2.85)
23		4.8	24	300					(2.90)

Time: 75.0°W.
Sweep: 1.0 Mc to 20.0 Mc in 16 seconds.

Table 17

Wakkanai, Japan (45.4° N, 141.7° E) October 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.7	29	310					2.65
01		4.6	29	305					2.70
02		4.2	28	310				1.9	2.65
03		4.2	29	310			----	2.3	2.65
04		4.0	29	320				2.1	2.65
05		4.0	31	310					2.70
06		5.8	31	250			----		3.05
07	---	7.8	29	240	---		2.40	3.1	3.10
08	---	9.8	29	240	---		2.80	3.4	3.15
09	(370)	10.6	28	240	---		3.05	3.5	3.15
10	---	10.9	28	230	---		3.15	3.5	3.10
11	---	11.4	28	230	---		3.20	3.5	3.10
12	---	11.8	28	235	---		3.10	3.6	3.05
13	---	10.8	29	240	---		3.10	3.5	3.05
14		10.4	30	240	---		3.00	3.2	3.05
15		10.2	30	240			2.65	3.3	3.10
16		9.7	29	240			2.35		3.10
17		8.3	31	225					3.05
18		7.0	30	245				2.4	3.00
19		6.4	30	260					2.95
20		5.8	31	260					2.90
21		5.3	30	270					2.80
22		5.0	30	290					2.75
23		4.8	29	300					2.65

Time: 135.0°E.
Sweep: 1.0 Mc to 20.7 Mc in 1 minute.

Table 18

Rome, Italy (41.8° N, 12.5° E) October 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.0)	21	320					(2.60)
01		(5.1)	23	320					(2.50)
02		(5.0)	26	310					(2.60)
03		(4.8)	26	310					(2.60)
04		(4.7)	26	300					(2.75)
05	---	4.1	22	270	---				(2.75)
06	---	4.2	26	260	---				2.80
07	---	(6.7)	17	240	---	140	2.2		(3.10)
08	---	(8.6)	18	240	---	120	2.6	3.1	3.20
09	---	(10.5)	24	240	---	110	3.0	3.1	(3.15)
10	---	(11.2)	24	240	---	110	3.2	4.4	(3.10)
11	---	(11.5)	27	230	---	110	3.3	4.6	3.05
12	---	12.0	28	230	---	110	3.4		3.10
13	---	11.3	26	220	---	110	3.4		3.05
14	---	11.3	28	240	---	110	3.2		3.00
15	---	11.4	29	250	---	110	3.0		3.05
16	---	(11.2)	27	250	---	120	2.7	2.7	3.05
17		9.2	17	240		110	2.0	3.1	3.10
18		(8.4)	16	240				3.1	(3.05)
19		(8.6)	13	250				2.8	(3.10)
20		5.4	16	250				2.5	3.00
21		5.4	21	290					2.70
22		5.4	19	310				2.5	2.65
23		5.3	21	300					2.65

Time: 15.0°E.
Sweep: 1.4 Mc to 15.0 Mc in 5 minutes, automatic operation.

Table 19

Akita, Japan (39.7° N, 140.1° E) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.9	31	300				1.8	2.70
01		4.6	30	290					2.70
02		4.5	30	295					2.65
03		4.5	30	295					2.65
04		4.3	30	295				1.8	2.60
05		4.3	30	300					2.65
06	---	6.2	31	245	---		1.80	2.0	3.15
07	---	9.1	31	245	---		2.50	3.1	3.25
08	(250)	10.8	31	245	---		2.95	3.5	3.25
09	245	11.6	30	240	---		3.20	3.9	3.15
10	250	12.3	30	230	---		3.40	(4.0)	3.15
11	250	12.0	30	225	---		3.45	4.0	3.05
12	250	12.3	31	235	---		3.50	4.0	3.05
13	250	11.8	31	245	---		3.45	3.7	3.00
14	(250)	11.3	31	245	---		3.20	(3.6)	3.10
15	---	11.4	31	245			2.95		3.10
16		10.6	31	245			2.40	2.6	3.20
17		9.2	31	240			----	2.4	3.20
18		7.6	31	240				2.1	3.05
19		6.8	31	245				2.3	2.95
20		6.3	31	250				(2.4)	3.00
21		5.7	31	255				(2.3)	2.95
22		5.1	31	270					2.80
23		4.9	31	290					2.70

Time: 135.0°E.
Sweep: 1.6 Mc to 20.0 Mc in 20 seconds.

Table 20

Washington, D. C. (38.7° N, 77.1° W) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.1	29	270					2.85
01		4.75	28	280					2.85
02		4.5	29	280					2.80
03		4.0	29	280					2.85
04		(3.7)	29	280					(2.90)
05		(3.55)	28	280					(3.00)
06		(3.8)	31	270		123	(1.70)		(3.00)
07	---	6.6	31	240	---	121	2.08		3.25
08	(245)	8.1	31	235	---	113	2.70		3.30
09	260	9.2	31	225	---	109	3.00		3.15
10	265	9.5	31	210	---	109	3.20		3.05
11	270	10.2	31	215	---	109	3.30		3.00
12	285	10.6	31	220	---	109	3.30		2.95
13	275	10.8	31	230	---	109	3.30		2.95
14	(290)	10.5	31	230	---	109	3.15		2.90
15	250	10.5	31	235	---	111	3.00		3.00
16	(240)	10.7	31	235	---	119	2.65		3.05
17	---	10.0	31	235	---	129	1.95		3.05
18		8.9	31	225					3.05
19		7.4	30	235					2.98
20		6.6	29	250					2.95
21		5.85	28	260					2.85
22		5.6	29	270					2.80
23		5.4	29	270					2.80

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 21

Tokyo, Japan (35.7° N, 139.5° E) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.9	30	300					2.65
01		4.6	30	295					2.70
02		4.4	30	<300					2.65
03		4.4	30	290					2.60
04		4.2	30	300					2.65
05		4.2	30	310					2.60
06	---	6.6	30	250			(1.90)		3.00
07	---	9.4	30	235	---		(2.50)	2.5	3.20
08	(280)	11.0	30	230	---		3.00	3.5	3.15
09	250	11.6	30	230	---		3.20	3.6	3.10
10	250	12.2	31	225	---		3.40	3.8	3.00
11	255	12.8	30	220	---		(3.50)	3.9	3.00
12	260	12.4	30	230	---		3.55	3.8	2.90
13	260	12.4	31	230	---		3.35	3.8	2.95
14	260	12.2	31	240			3.25	3.7	3.00
15	(250)	11.7	31	245			2.95	3.1	3.05
16	---	10.9	31	245			2.50	3.2	3.05
17	---	10.0	31	230			----	2.5	3.10
18		8.2	31	230				2.4	3.00
19		6.7	31	250				2.0	2.90
20		6.4	30	250					2.90
21		6.0	30	255					2.90
22		5.1	30	280					2.70
23		4.9	30	300					2.65

Time: 135.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 20 seconds.

Table 22

White Sands, New Mexico (32.3° N, 106.5° W) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.4	28	(307)					2.65
01		4.3	29	305					2.65
02		4.4	29	305					2.65
03		4.2	31	300					2.75
04		4.2	29	288					2.70
05		3.95	30	<300					2.70
06	---	4.75	30	279	---	120	----		2.88
07	---	7.5	31	242	---	120	2.30		3.25
08	---	9.2	31	230	---	115	2.80	2.8	3.20
09	(270)	9.9	31	218	---	110	3.20		3.10
10	(286)	10.7	31	210	---	113	3.40		3.00
11	279	11.2	30	215	---	112	(3.55)		2.95
12	(290)	11.6	31	220	---	113	3.60		2.90
13	(284)	11.8	31	225	---	112	3.50		2.90
14	(262)	11.7	31	235	---	110	3.40		2.92
15	---	11.4	31	240	---	115	3.10		2.98
16		11.0	31	240	---	119	2.80	2.9	3.00
17		10.4	31	235		130	2.20	2.4	3.10
18		9.0	31	220		---	----	2.1	3.10
19		6.7	31	226					2.95
20		5.6	31	250					3.00
21		4.45	30	(265)					2.85
22		4.3	29	(280)					2.80
23		4.3	28	290					2.70

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 23

Yamagawa, Japan (31.2° N, 130.6° E) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.8	28	280					2.80
01		5.2	28	280					2.80
02		4.5	30	290					2.80
03		4.5	29	280					2.80
04		4.3	28	270					2.70
05		4.3	27	300					2.70
06		4.6	26	280					2.85
07	---	8.2	27	240	---		2.15		3.30
08	---	10.2	29	235	---		2.80	3.1	3.30
09	---	11.3	28	235	---		3.20	3.6	3.20
10	---	12.0	28	230	---		3.40	4.0	3.10
11	---	13.0	28	225	---		3.50	4.0	3.00
12	---	13.3	27	220			3.70	3.8	2.95
13	---	14.0	26	230			3.65	3.8	2.90
14	---	14.1	23	240			3.50	3.8	2.90
15	---	13.2	23	245			3.30	3.8	3.00
16		12.8	28	250			2.95	3.3	3.05
17		12.4	30	245			2.25	2.9	3.10
18		(11.1)	31	230				2.5	(3.10)
19		(9.6)	29	230				2.4	(3.05)
20		(8.2)	27	245				2.3	(2.90)
21		7.9	25	250				2.2	2.95
22		6.4	26	250					2.70
23		6.0	28	285					2.75

Time: 135.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 24

El Cerllo, Mexico (19.3° N, 99.5° W) October 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.0	27	260					3.00
01		4.8	27	280					2.80
02		4.9	27	280					2.90
03		4.5	27	270					2.90
04		4.2	27	250					2.90
05		3.8	27	260					2.90
06		3.9	27	290					2.80
07		7.0	27	240		126	1.90		3.30
08		9.2	27	230		103	2.70		3.30
09		10.8	27	215		105	3.20		3.20
10		12.0	27	215		105	3.60		3.10
11		(12.0)	27	205		105	3.80		(2.95)
12		(13.0)	27	215		107	3.85		(2.80)
13		(13.0)	25	215		104	3.90		(2.80)
14		(13.5)	26	225		110	3.80	3.8	(2.80)
15		(13.0)	27	240		107	3.60	4.0	(2.80)
16		(13.0)	28	240		109	3.20	3.9	(2.90)
17		(12.0)	28	240		109	2.70	3.9	3.10
18		11.0	28	220		---	----	3.3	3.10
19		10.0	28	230				3.0	3.10
20		8.0	27	220				1.9	3.10
21		5.8	27	245					2.90
22		5.6	27	270					3.00
23		5.6	27	250					3.00

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 25

Singapore, British Malaya (1.3° N, 103.8° E) October 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.3	26	225		---	----		2.90
01		9.7	27	250		130	----		2.90
02		8.7	28	250		125	----		3.00
03		8.1	28	240		---	----		3.10
04		7.1	27	230		---	----		3.25
05		4.4	25	230		---	----		3.30
06	---	6.7	27	260	---	125	----		3.15
07	---	9.8	29	245	---	120	2.65	3.0	3.20
08	---	11.2	27	235	---	115	3.20	3.5	2.85
09	---	11.7	26	220	---	110	3.60	4.0	2.50
10	---	12.2	25	215	---	110	(3.80)	4.0	2.25
11	---	12.2	24	210	---	110	3.95		2.05
12	310	12.0	29	215	---	110	(4.00)		2.05
13	555	12.1	27	205	---	110	(4.00)		2.20
14	---	12.7	28	210	---	110	3.75		2.30
15	---	12.9	27	225	---	110	3.40		2.40
16	---	13.6	25	245	---	110	3.00		2.45
17	---	13.6	26	260	---	120	2.30		2.40
18	---	13.4	26	295	---	110	----	1.7	2.35
19		13.2	27	350		---			2.30
20		13.6	22	315		---			2.40
21		>13.7	24	265		---			(2.70)
22		13.2	21	230		---			3.00
23		11.2	23	225		---			3.05

Time: 105.0°E.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 26

Talara, Peru (4.6° S, 81.3° W) October 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		11.4	23	<230				3.4	3.05
01		>9.5	25	230				3.5	3.20
02		8.2	27	230				2.6	3.15
03		7.0	24	235					3.10
04		6.25	24	245					3.10
05		5.3	23	250					3.15
06		5.8	27	<270				1.9	3.00
07		9.4	28	250		125	2.50		3.10
08		11.55	30	235		119	3.12		2.90
09		13.3	31	225		115	3.50		2.70
10		13.7	31	215		115	3.80		2.50
11		13.6	31	210		115	3.95		2.40
12		13.8	31	210		115	4.00		2.30
13		13.5	31	205		115	3.95		2.35
14		>13.5	30	<205		113	3.75		2.35
15		>13.2	29	215		111	3.50	3.6	2.40
16		13.2	29	(225)		113	3.20	3.6	2.40
17		13.0	29	<250		116	2.75	2.9	2.38
18		(12.2)	29	270		<163	2.00		2.45
19		>12.0	31	320					2.55
20		(12.0)	25	330					(2.55)
21		12.6	15	270					(2.80)
22		>12.0	18	230				1.8	----
23		(11.6)	19	220				2.9	3.02

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 27

Huancayo, Peru (12.0° S, 75.3° W) October 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.8	15	230					3.02
01		8.6	17	230					3.10
02		7.05	20	240					3.10
03		6.65	24	235					3.15
04		5.95	22	235					3.20
05		4.8	21	235					3.25
06		7.5	27	260		<137	2.00		3.20
07		10.8	29	240		121	2.80		3.15
08		12.5	29	225		117	(3.35)	7.1	2.95
09		13.3	29	220		113	(3.75)	7.3	2.60
10		13.5	28	210		---	(4.00)	7.5	2.40
11		12.7	28	205		---	(4.00)	7.6	2.32
12	---	12.15	28	200		---	(4.05)	7.6	2.35
13	---	12.0	28	200		---	(4.00)	7.6	2.35
14		12.0	27	200		---	(3.90)	7.4	2.30
15		12.0	27	200		---	(3.50)	7.4	2.30
16		12.0	26	235		---	(3.12)	7.3	2.30
17		11.7	27	255		120	(2.55)	5.9	2.30
18		11.3	29	280		<160	1.55		2.38
19		10.7	28	335					2.25
20		10.8	17	310					2.48
21		10.6	14	270					2.68
22		11.0	13	245					2.85
23		10.7	13	240					3.05

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 28

Townsville, Australia (19.3° S, 146.7° E) October 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>7.0	5	265					
01		>6.7	8	250					----
02		>6.0	11	260					
03		>6.0	15	280					----
04		>6.0	15	300					(2.80)
05		>5.5	17	<300					(2.75)
06		(6.8)	7	260			1.95		
07		>9.2	6	245			2.70	3.2	----
08		(10.9)	13	230			3.15	3.6	----
09		11.0	24	220			3.45	3.9	3.05
10		11.2	23	210			3.55	4.1	2.90
11		12.0	25	210			3.75	4.3	2.90
12		12.2	25	210			3.80	4.2	2.90
13		>12.1	24	220			(3.80)	4.3	2.85
14		>11.8	24	230			3.75	4.0	2.80
15		>11.4	22	230			3.60	3.8	2.90
16		>11.0	17	240			3.25	3.8	(2.80)
17		>11.0	3	250			2.70	3.8	
18		>8.5	2	260			1.90	3.8	
19		>6.1	2	260				2.6	
20		>7.0	1	300				2.5	
21		>5.7	1	290				2.6	
22		>5.0	1	290				2.6	
23		(4.7)	1	280				2.3	----

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 29

Brisbane, Australia (27.5° S, 152.9° E) October 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(7.8)	22	270					2.70
01		(7.4)	24	260					2.80
02		7.0	22	260					2.65
03		6.3	23	280					2.65
04		(5.9)	24	290					2.65
05		>6.1	22	280			<1.60		2.75
06		7.8	26	250	---		2.20		3.05
07		>8.4	26	240	---		2.80	3.0	2.90
08		>8.5	25	230	---		3.25	3.6	2.95
09		>9.0	24	220	4.8		>3.45	4.0	2.90
10		>9.7	22	220	5.0		3.70	3.8	2.80
11		(10.6)	23	210	4.9		>3.70	3.9	2.80
12		(10.8)	26	210	5.0		3.80	3.8	2.85
13		(11.0)	22	220	4.6		3.80		2.80
14		(9.9)	23	220	4.5		3.70		2.85
15		>8.5	18	230	---		3.40		2.75
16		(9.0)	17	240	---		3.00		(2.80)
17		(8.6)	22	250	---		(2.30)		2.85
18		(8.7)	23	250			<1.70	3.0	2.80
19		8.7	27	260				1.8	2.80
20		>8.5	26	280					2.70
21		8.6	26	280					2.70
22		8.5	27	290					2.70
23		(8.2)	24	290					2.75

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 30

Thule, Greenland (76.0° N, 68.0° W) September 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.5)	5	249					----
01		(5.0)	11	254		---	----		(2.70)
02		(4.75)	8	259		---	----		----
03		(4.5)	7	250		---	----		(2.82)
04		(4.3)	7	258		(146)	(1.40)		(2.80)
05		(4.9)	14	268		125	1.75	1.9	(2.75)
06		(5.6)	12	257		130	1.98	2.1	(2.85)
07		(5.7)	13	246		118	2.05		(2.95)
08		(5.9)	13	254		114	2.25	2.4	(2.92)
09		(5.7)	13	249		114	2.40	2.8	(2.85)
10		(6.6)	12	240		114	2.60	3.5	(2.82)
11	---	(6.0)	13	240	---	113	2.50	2.7	(2.80)
12	---	(6.2)	16	240	---	113	2.60	2.6	(2.90)
13	---	(6.0)	16	242	(4.2)	112	2.68	2.8	(2.82)
14	---	(6.2)	15	240	---	116	2.50	3.2	(2.90)
15	---	(6.15)	16	245	---	118	2.40	2.8	(2.85)
16		(6.2)	17	254		120	2.25	2.4	(2.80)
17		(5.95)	18	261		128	1.90	2.3	(2.80)
18		(6.65)	14	257		(115)	1.70	3.0	(2.75)
19		(6.35)	12	264		---	(1.60)	3.4	(2.80)
20		(6.5)	13	252		---	----	3.5	(2.78)
21		(5.8)	11	260		---	----	1.7	(2.65)
22		(5.7)	14	252		---	----		(2.72)
23		(5.7)	11	257					(2.62)

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 31

Fairbanks, Alaska (64.9° N, 147.8° W) September 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.5	11					4.4	(2.80)
01		(3.95)	6					4.6	----
02		(4.2)	10					4.6	(2.68)
03		(4.7)	13					4.7	(2.62)
04		(4.6)	9					4.0	(2.60)
05		(4.7)	12					4.3	(2.72)
06		(5.0)	11					2.6	(2.80)
07		(5.45)	18						(2.80)
08		(5.9)	21						(2.85)
09		5.8	20						2.78
10		5.8	21						2.72
11		6.2	21						2.75
12		6.3	22						2.78
13		6.45	24						2.72
14		(6.75)	22						(2.80)
15		(6.75)	26						(2.85)
16		(6.6)	25						(2.90)
17		(6.55)	26						(3.02)
18		6.0	23						3.00
19		(5.7)	21						(3.00)
20		(5.8)	17					3.4	(2.95)
21		(4.3)	13					3.5	3.00
22		(4.2)	16					3.8	(2.88)
23		(4.3)	16					3.8	(2.85)

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 32

White Sands, New Mexico (32.3° N, 106.5° W) September 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.5	29	312					2.60
01		5.25	30	314					2.60
02		5.05	30	311					2.60
03		5.1	29	300					2.65
04		4.95	30	<305					2.62
05		4.75	30	300					2.68
06		5.9	30	270		---	----		3.00
07	---	8.35	30	248	---	119	2.72	2.7	3.10
08	291	9.3	30	230	---	114	3.12	>3.2	3.10
09	(295)	9.45	30	220	---	110	3.40		2.95
10	342	10.2	30	212	---	112	3.60		2.80
11	335	10.6	30	211	---	110	3.80		2.75
12	334	10.9	30	214	---	111	3.90		2.70
13	338	11.0	30	219	---	110	3.85		2.70
14	320	11.05	30	230	---	110	3.75		2.72
15	(320)	10.85	30	230	---	110	3.50		2.75
16	(324)	10.45	30	240	---	115	3.20		2.80
17	---	10.15	30	250		117	2.65	2.8	2.90
18		9.35	30	245		---	----	2.4	2.95
19		8.5	30	233				2.2	2.90
20		6.9	30	250					2.80
21		6.25	30	275					2.75
22		5.75	30	286					2.70
23		5.55	30	300					2.68

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 33

Kiruna, Sweden (67.8° N, 20.3° E) November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.4)	7	(380)				4.4	(2.6)
01		(4.8)	6	345				4.0	----
02		(5.2)	4	360				4.8	----
03		(5.5)	9	310				4.2	(2.6)
04		5.0	10	300				2.8	(2.6)
05		5.2	10	280				2.5	2.8
06		3.6	15	270					2.75
07		4.0	16	270					2.8
08	---	4.8	23	260	---	---	---		2.8
09	---	6.4	23	245	---	---	---		3.0
10	---	7.8	22	245	---	---	2.0		3.15
11		8.3	24	245		---	2.0		3.05
12		8.6	26	245		---	---		3.1
13		8.3	27	240		---	---		3.05
14		7.9	19	240		---	---		3.1
15		6.7	19	240					3.0
16		6.0	13	240				2.7	3.0
17		4.8	14	255				4.0	2.8
18		4.1	10	290				3.6	2.8
19		(5.0)	9	310				4.0	(2.8)
20		(3.7)	8	335				5.0	(2.6)
21		(4.5)	9	360				5.0	(2.6)
22		(3.8)	7	(340)				4.4	(2.6)
23		(5.8)	7	(375)				5.0	(2.6)

Time: 15.0°E.
Sweep: 0.8 Mc to 17.0 Mc in 30 seconds.

Table 34

Upsala, Sweden (59.8° N, 17.6° E) November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3.2	23	320		105	0.85	2.4	2.5
01		2.9	21	310		105	0.90	2.9	2.5
02		(2.5)	23	310		105	(0.80)	2.4	2.5
03		(2.6)	24	305		105	0.95	2.4	2.6
04		2.7	23	295		105	0.90	2.4	2.6
05		2.8	25	290		105	0.90	2.7	2.7
06		2.9	26	260		105	0.95	2.4	2.7
07		3.8	30	260		110	1.15		2.7
08		5.9	30	240		105	1.75	2.8	3.0
09		8.0	30	240		105	2.00	2.0	3.1
10	---	10.0	30	240	---	105	2.40	3.2	3.1
11		10.8	30	240	---	105	2.40		3.1
12		11.2	30	235	---	110	2.40	4.6	3.1
13		11.4	30	240		110	2.20	4.2	3.1
14		11.3	29	235		105	2.00	4.2	3.1
15		10.0	30	225		105	1.65	2.9	3.2
16		8.7	29	230		105	1.35	2.4	3.0
17		7.6	23	230		105	1.15		3.1
18		6.0	26	240		105	0.90	2.3	3.0
19		4.8	25	240		105	(0.90)		3.0
20		4.0	24	255		105	(0.85)		2.7
21		3.2	24	305		105	0.80		2.6
22		3.5	24	300		105	(0.85)		2.5
23		3.4	20	300		110	(0.75)	1.4	2.5

Time: 15.0°E.
Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.
Occasionally, 1.4 Mc to 16.0 Mc in 6 minutes, automatic operation.

Table 35

Churchill, Canada (58.8° N, 94.2° W) November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.2)	25	300				4.6	----
01		4.0	25	295		---	----	4.8	----
02		(4.1)	19	300		---	----	3.7	
03		4.2	22	340		---	----	3.2	
04		4.2	19	320		---	----	3.1	
05		4.2	18	310		---	----	3.2	----
06		(4.0)	18	350		---	----	3.7	
07		4.4	16	305		---	----	3.6	----
08		5.0	19	300		---	2.00	3.6	----
09		6.1	23	290		120	2.60		(3.10)
10		7.0	25	280		120	3.00		3.00
11		8.0	25	270	---	120	3.00		3.05
12	---	9.0	27	270	---	120	3.00		2.95
13	---	9.2	29	260	---	120	2.90		2.95
14	---	10.3	29	260	---	120	2.60		2.90
15		10.0	28	270		<130	2.35		2.95
16		8.1	28	270		125	2.00		3.00
17		6.8	20	285		---	----	3.2	(2.95)
18		5.8	23	290		---	----	3.6	(3.00)
19		5.0	27	300		---	----	3.6	----
20		4.5	26	300				4.0	
21		4.5	18	300				4.8	----
22		4.4	21	290				6.8	
23		4.1	21	300				4.8	----

Time: 90.0°W.
Sweep: 1.0 Mc to 17.0 Mc in 16 seconds.

Table 36

El Cerllo, Mexico (19.3° N, 99.5° W) November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.0	28	260					2.90
01		3.9	28	265					2.80
02		3.8	28	260				1.5	2.90
03		3.6	28	265					3.00
04		3.3	28	250				3.2	2.90
05		3.2	28	280				2.6	2.80
06		3.3	27	290				2.0	2.85
07		6.6	26	245		153	1.90	3.2	3.20
08		10.6	26	230		109	2.60	4.4	3.40
09		12.1	28	220		105	3.20	3.6	3.30
10		12.4	29	215		105	3.40	4.0	3.20
11		12.5	29	215		103	3.70	4.1	3.10
12		12.4	28	210		105	3.80	4.0	2.95
13		13.0	30	210		105	3.80	4.2	2.90
14		13.0	30	215		105	3.70	4.0	2.90
15		13.3	30	230		105	3.50	4.3	2.90
16		13.0	29	230		105	3.10	3.8	2.95
17		12.4	28	230		111	2.35	3.1	3.00
18		11.6	29	220		---	----	2.7	3.10
19		9.6	29	205				1.9	3.10
20		7.0	29	210				2.6	3.10
21		6.0	29	245				2.6	3.10
22		5.4	28	230				2.7	3.20
23		4.6	28	235				2.0	3.00

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 37

Resolute Bay, Canada (74.7° N, 94.9° W) October 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.3	30	270					2.70
01		4.8	31	290				2.0	2.55
02		5.1	31	280		---	----	1.9	2.55
03		4.8	31	295		---	----	1.4	2.50
04		4.8	31	295		---	----	2.0	2.50
05		3.9	30	<300		---	----	1.7	2.50
06		4.4	30	300		---	1.30	1.5	2.50
07		5.7	30	290		110	1.60		2.65
08	---	6.0	30	290	---	100	1.65		2.55
09	---	6.2	30	270	---	100	1.90		2.55
10	---	6.1	30	280	---	110	2.10		2.65
11	---	5.8	30	285	---	105	2.20		2.60
12	(390)	6.2	30	275	3.8	110	2.20		2.60
13	(470)	6.6	30	275	---	110	2.10		2.65
14	---	6.4	30	270	---	105	2.10		2.60
15	---	7.0	30	275	---	105	1.90		2.60
16	---	7.0	30	275		100	1.65		2.70
17		6.6	30	270		100	1.70	1.7	2.60
18		6.6	30	270		---	1.45		2.55
19		6.2	30	280		---	----		2.55
20		5.4	30	280				1.8	2.55
21		5.6	30	290					2.60
22		5.0	30	280					2.55
23		5.0	30	275					2.55

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 38

Nurmijarvi, Finland (60.5° N, 24.6° E) October 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.9)	5						(2.65)
01		(4.5)	5						(2.65)
02		(4.2)	4						----
03		(3.9)	4						----
04		(3.4)	3						----
05		(3.5)	5						(2.80)
06		(3.8)	6						(2.80)
07		5.1	10						3.05
08		6.7	18						3.10
09		8.0	20		---		---		3.10
10		9.6	23		---		---		3.10
11		9.8	23		---		---		3.10
12		10.7	24		---				3.10
13		10.9	27						3.00
14		11.0	23						3.10
15		10.6	26						3.10
16		10.1	21						3.15
17		9.7	20						3.10
18		8.8	12						3.10
19		(8.0)	9						(3.10)
20		7.9	10						3.05
21		(5.8)	9						(2.90)
22		(5.1)	7						(2.75)
23		(5.1)	5						(2.65)

Time: 30.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 1 minute.

Table 39

Churchill, Canada (58.8° N, 94.2° W) October 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.8)	30	300		---	---	5.0	
01		4.8	28	300		---	---	5.0	
02		4.5	25	300		---	---	4.8	----
03		(4.5)	27	300		---	---	4.5	
04		4.5	22	310		---	---	4.5	
05		4.2	23	360		---	---	4.1	----
06		4.5	23	340		---	2.2	4.0	----
07	---	5.3	25	300		140	2.6	3.3	(3.1)
08	---	6.2	26	280		120	2.8	3.5	3.15
09	---	6.8	28	260	---	115	2.9		3.1
10	---	7.8	25	250	---	110	3.0		3.0
11	(390)	8.5	27	250	4.5	110	3.0		2.9
12	(440)	8.6	30	240	---	110	3.0		2.9
13	330	9.2	29	240	4.5	110	3.0		2.9
14	(360)	9.5	27	250	4.2	120	3.0		2.9
15	---	9.9	30	260	---	115	2.8		2.9
16	---	9.0	29	270	---	120	2.4		3.0
17		6.8	30	280		120	2.1		3.0
18		6.0	28	300		120	3.0	4.0	----
19		5.7	27	320		---	3.0	3.4	----
20		5.2	25	300		---	---	3.5	----
21		5.1	23	300		---	---	5.0	----
22		5.0	22	300		---	---	6.0	
23		4.5	25	290		---	---	5.3	

Time: 90.0°W.
Sweep: 1.0 Mc to 17.0 Mc in 16 seconds.

Table 40

Moscow, U. S. S. R. (55.5° N, 37.3° E) October 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.3	31	305				<1.3	2.55
01		4.3	31	310				<1.3	2.50
02		4.0	31	300			----		2.55
03		3.8	31	300			----		2.55
04		3.6	30	270			E		2.65
05		3.5	31	265			E	1.4	2.70
06	---	5.0	31	250	---		1.60		3.00
07	---	7.0	30	240	---		2.15		3.15
08	---	9.0	31	240	---		2.60		3.05
09	(255)	9.8	31	230	---		2.85	3.0	3.10
10	(275)	10.9	31	230	---		3.00	3.0	3.05
11	245	10.9	31	230	---		3.10	3.1	3.05
12	---	11.4	31	230	---		3.10		2.95
13	---	11.3	31	235	---		3.00	3.0	3.00
14	---	11.4	31	240	---		2.80		3.00
15		10.9	31	235			2.50		3.00
16		10.0	31	230			2.00	2.0	3.10
17		9.2	31	230			1.40	2.0	3.05
18		8.1	31	235			----	1.6	3.00
19		7.0	31	235				<1.4	3.00
20		5.7	31	240				<1.3	2.90
21		5.0	31	255				<1.4	2.75
22		4.6	31	275				<1.3	2.65
23		4.4	31	300				<1.3	2.55

Time: 30.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 41

Dourbes, Belgium (50.1° N, 4.6° E) October 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.8	28	310				<1.4	2.55
01		4.8	27	300				<1.1	2.55
02		4.8	27	300				<1.2	2.60
03		4.3	26	300				<1.2	2.65
04		4.2	28	<280				<1.4	2.75
05		3.6	28	265				<1.6	2.75
06		4.6	28	250		---	<1.60	<1.6	3.00
07		6.8	27	240	---	<117	2.30		3.25
08	---	8.4	27	235	---	109	2.65	2.6	3.20
09	---	9.4	28	230	---	105	2.95	3.2	3.10
10	(275)	10.5	28	220	---	106	3.15	3.5	3.10
11	(285)	11.3	29	220	---	106	3.25	3.4	3.05
12	---	11.4	30	225	---	107	3.20	3.3	3.05
13	---	10.8	29	230	---	(108)	3.10	3.2	3.00
14		10.9	27	235		(110)	2.95	3.0	3.05
15		10.6	29	235		(113)	2.70	2.8	3.05
16		10.6	28	240		(117)	2.30	2.5	3.10
17		9.6	28	230		---	<1.60	2.0	3.10
18		8.3	29	230				2.2	3.05
19		7.0	28	230				1.9	3.00
20		6.3	29	240				1.8	2.95
21		5.5	28	250				<1.6	2.75
22		5.3	27	300				<1.6	2.60
23		5.2	27	300				<1.6	2.60

Time: 0.0°.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 42

Winnipeg, Canada (49.9° N, 97.4° W) October 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		4.0	26	290					(2.95)
01		4.0	25	300					----
02		4.0	24	320					----
03		3.6	24	320		---	---		----
04		3.6	25	320					----
05		3.2	24	300					----
06		3.5	27	300		---	---		----
07		5.1	27	260		---	1.7		(3.15)
08		6.9	27	240		110	2.5		3.2
09	---	8.0	27	230		110	2.9		3.15
10	(320)	8.8	26	230	---	105	3.0		3.0
11	(300)	9.5	26	220	---	100	3.2		(2.9)
12	(320)	9.8	28	220	---	105	3.3		2.9
13	(360)	10.0	26	220	---	105	3.3		(2.95)
14	---	10.4	26	230	---	105	3.2		2.9
15	---	10.2	28	240	---	110	3.0		2.8
16	---	10.0	29	240		110	2.7		(2.9)
17		10.0	24	240		120	2.2		----
18		9.3	25	230		---	---		----
19		8.2	30	230					----
20		7.2	28	240					----
21		6.0	27	240					(3.0)
22		5.0	27	260		---	---		(3.0)
23		4.4	26	280					----

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.
October 21 on - 1.6 Mc to 20.0 Mc in 15 seconds.

Table 43

St. John's, Newfoundland (47.6° N, 52.7° W) October 1959

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.0	27	290					2.75
01		4.3	27	282					2.70
02		4.2	29	285					2.70
03		4.2	29	274					2.75
04		3.9	31	270					2.70
05		3.8	31	258		---	----		2.75
06		5.2	31	258		(134)	1.90		3.05
07		7.2	31	240		115	2.50		3.20
08	---	8.8	31	230	---	108	3.00		3.20
09	---	9.8	31	225	---	105	3.10		3.10
10	---	10.6	31	225	---	105	3.30		3.05
11	---	11.0	31	220	---	105	3.40		3.00
12	---	11.0	31	225		105	3.40		3.00
13	---	11.1	31	230		105	3.20		2.95
14	---	11.2	31	235		110	3.00		2.95
15	---	11.1	31	240		111	2.80		3.00
16		11.0	30	244		115	2.30		3.00
17		10.2	29	234		---	----		3.00
18		9.0	27	235					3.00
19		7.6	26	240					2.85
20		6.6	28	270					2.75
21		6.2	26	278					2.70
22		5.9	26	290					2.65
23		5.3	23	295					2.70

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 44

Budapest, Hungary (47.4° N, 19.2° E) October 1959

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.3	29	305					
01		5.0	29	300					
02		4.8	28	300					
03		4.6	28	290					
04		4.2	31	265					
05		5.5	31	245		150	1.8		
06	---	7.8	30	230	---	120	2.2	2.4	
07	---	9.1	31	230	---	115	2.8	3.3	
08	(290)	10.7	30	220	4.2	110	3.1	3.6	
09	(240)	11.4	30	220	4.5	110	3.2	4.1	
10	(240)	12.0	30	220	4.3	110	3.4	4.1	
11	---	12.3	29	225	---	110	3.3	3.9	
12	---	>11.9	29	225	---	110	3.3	3.5	
13	---	11.7	29	230	---	110	3.1		
14	---	>11.6	28	230	---	110	2.8	3.3	
15		11.4	26	230		120	2.4	3.2	
16		10.4	28	225		---	---	3.2	
17		9.0	27	230		---	---	3.2	
18		7.7	28	235				3.0	
19		6.6	28	235				2.5	
20		5.8	28	260					
21		5.2	29	275					
22		5.2	28	305					
23		5.2	29	310					

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 35 seconds.

Table 45

Garchy, France (47.3° N, 3.1° E) October 1959

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.2	14	<325					
01		5.0	12	<330					
02		4.8	12	<320					
03		(4.8)	9	<315					
04		(4.6)	9	<290					
05		(3.8)	9	(285)					
06		(4.5)	5	(250)					
07		(7.2)	8	(230)		120	----		
08	---	>9.0	16	235		115	2.75		
09	(285)	10.1	16	230		110	3.10	3.4	
10	(250)	11.3	18	230		105	3.25	3.6	
11	(270)	(11.7)	18	225		105	3.35	3.7	
12	---	11.8	19	225		105	3.35	3.6	
13	(250)	11.8	18	240		105	3.30	3.4	
14	---	11.4	20	240		105	3.20	2.4	
15	---	11.5	21	245		110	2.90	3.0	
16		>11.0	20	245		115	2.40	2.8	
17		(9.3)	6	(250)				(2.7)	
18		>9.0	13	240				3.4	
19		>7.1	14	<235					
20		6.8	14	250					
21		(5.9)	14	(265)					
22		(5.7)	14	(285)					
23		5.3	13	<320					

Time: 0.0°.

Table 46

Ottawa, Canada (45.4° N, 75.9° W) October 1959

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.0	28	285					---
01		4.6	28	290					---
02		4.2	28	290					---
03		4.2	28	300					---
04		4.0	27	290					
05		3.9	28	290					---
06		4.0	29	280					---
07		6.5	29	250		120	2.1		3.2
08		7.8	29	240		115	2.8		(3.1)
09	---	8.9	29	230	---	110	3.0		3.1
10	---	9.9	29	220	4.7	110	3.2		(3.1)
11	(350)	10.2	29	210	4.8	110	3.3		3.0
12	(300)	10.8	28	220	5.0	110	3.3		(3.0)
13	---	11.0	28	230	5.0	110	3.3		3.0
14	---	11.0	29	235	---	110	3.1		(3.0)
15	---	11.0	29	245	---	110	3.0		(3.0)
16		10.4	28	250		115	2.6		---
17		10.0	27	235		135	2.0		
18		9.3	27	230					---
19		8.3	27	235					---
20		7.2	27	250					(3.0)
21		6.4	27	255					(3.0)
22		5.9	26	260					(2.9)
23		5.3	29	280					---

Time: 75.0°W.
Sweep: 1.0 Mc to 20.0 Mc in 16 seconds.

Table 47

Ibadan, Nigeria (7.4° N, 3.9° E) October 1959

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.4	30	250					(3.00)
01		10.2	29	245					(2.95)
02		9.5	29	240					<3.15
03		8.8	29	235					3.15
04		6.8	29	230					(3.20)
05		4.9	29	225					3.30
06		7.8	29	250			2.15		3.20
07		10.8	26	245			2.95		3.10
08		12.4	28	230			3.45	6.8	2.80
09		12.8	28	220			3.80	7.0	2.45
10		12.1	31	210			(4.00)	9.4	2.30
11		11.6	31	205			(4.10)	9.4	2.40
12		11.9	31	205			(4.10)	7.8	2.35
13		12.6	31	205			4.00	7.0	2.35
14		12.9	30	210			3.80	7.0	2.30
15		13.0	29	210			3.45	6.8	2.30
16		(12.9)	30	240			2.95	6.8	(2.25)
17		>11.8	27	275			2.20		(2.30)
18		(10.4)	26	350			(1.15)		(2.05)
19		9.2	26	410					(2.00)
20		9.4	28	390					----
21		9.5	29	330					----
22		10.2	28	290					<2.80
23		10.6	28	260					(2.75)

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 48

Sao Paulo, Brazil (23.5° S, 46.5° W) October 1959

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>14.0	23	240					(3.20)
01		>14.1	26	230					(3.40)
02		>13.7	26	220					3.20
03		9.8	27	230					2.90
04		8.2	24	245					2.85
05		7.2	27	240					2.80
06		8.8	26	230			---		3.05
07		10.0	26	230			(3.0)		3.00
08		11.1	27	230			---		2.80
09		11.5	24	220			---		2.70
10		12.4	24	(220)					2.60
11		(13.2)	24	(200)					(2.60)
12		(13.7)	24	(195)					(2.60)
13		(14.0)	22	<230					(2.60)
14	---	>14.0	23	(225)					(2.60)
15	(370)	(14.3)	24	230			---		2.70
16	---	(14.4)	26	240			---		(2.80)
17		(14.5)	28	250			---		(2.90)
18		(14.3)	23	270					(2.90)
19		(14.2)	25	315					(2.75)
20		(14.2)	14	300					(2.80)
21		(14.2)	15	255					(2.90)
22		>14.1	20	245					(3.05)
23		>14.0	24	250					>3.15

Time: 45.0°W.
Sweep: 1.75 Mc to 20.0 Mc in 2 minutes 30 seconds.

Table 49

Capetown, Union of S. Africa (34.1° S, 18.3° E) October 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.8	31	---				<1.6	2.80
01		5.4	31	---				<1.6	2.65
02		5.2	31	---				<1.5	2.65
03		5.0	31	---				<1.5	2.70
04		4.9	31	---				<1.4	2.75
05		4.7	31	---				<1.4	2.70
06		5.3	30	270			<1.6		2.85
07		8.0	29	245			2.4		3.10
08	---	9.8	30	240			3.0		3.00
09	(260)	11.0	31	235			3.4		2.90
10	---	12.0	31	225			3.6		2.80
11	---	12.4	31	(225)	---		3.9		2.75
12	---	12.8	29	(220)	---		---		2.70
13	300	13.0	29	---	---		---		2.70
14	(305)	13.0	29	(230)	---		---		2.65
15	---	12.8	29	240	---		3.7		2.65
16	---	12.7	31	240	---		3.4		2.70
17	---	12.4	30	245			3.1		2.75
18		12.1	30	250			2.5		2.85
19		11.7	30	245			(1.7)	<1.8	2.95
20		10.4	31	230				<1.6	2.95
21		8.7	31	225				<1.6	2.95
22		7.4	31	240				<1.6	2.90
23		6.6	31	---				<1.6	2.90

Time: 30.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 7 seconds.

Table 50

Buenos Aires, Argentina (34.5° S, 58.5° W) October 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.8	27	290					2.70
01		10.8	25	285					2.80
02		10.8	26	260					2.90
03		8.6	26	230					2.80
04		7.2	27	230		---	E		2.60
05		7.8	24	270		165	1.60		2.65
06		8.8	26	240		115	2.50		2.95
07		10.0	28	230		109	----		2.90
08	---	11.2	25	230		111	----		2.85
09	---	12.0	29	220		109	----		2.80
10	---	(12.7)	27	(220)		---	----		2.75
11	(320)	14.0	28	---		---	----		2.70
12	(310)	14.6	29	---		---	----		2.75
13	---	15.0	30	(260)		---	----		2.70
14	330	15.1	28	240	---	---	----		2.70
15	325	15.2	28	230		109	----		2.75
16	(300)	15.0	28	245		115	----		2.80
17	---	15.0	28	250		111	2.65		2.80
18		15.0	28	265		---	1.90		2.90
19		14.4	28	265					2.85
20		>12.2	28	270					2.70
21		>12.0	25	280					2.70
22		>12.0	28	290					2.60
23		11.2	23	290					2.65

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 51

Canberra, Australia (35.3° S, 149.0° E) October 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>7.0	28	275					2.70
01		>6.6	29	265					2.70
02		6.4	29	260					(2.55)
03		6.0	30	275					2.60
04		5.7	30	290					2.60
05		5.7	29	295			1.45		2.75
06		7.0	29	255	---		2.10		3.05
07	---	7.8	30	245	---		2.80	3.0	3.05
08	365	>8.3	30	235	(4.9)		3.20		3.00
09	390	8.5	29	220	5.5		3.50	3.7	2.95
10	320	>8.6	29	210	(5.5)		3.65	3.9	2.85
11	320	9.5	27	210	(5.5)		3.70		2.80
12	330	9.5	27	210	5.8		3.70		2.90
13	350	9.6	27	210	5.8		3.70		2.80
14	340	9.8	30	220	5.6		3.60		2.80
15	(350)	9.5	31	230	5.4		3.50		2.75
16	---	9.5	31	240	(5.3)		3.30		2.85
17		(9.1)	31	250			2.70		2.80
18		>9.0	31	255			1.95		2.90
19		(8.4)	31	250					2.80
20		8.0	31	250					(2.80)
21		(7.6)	31	265					(2.75)
22		(7.3)	31	285					2.70
23		>7.4	30	290					2.65

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 52

Port Lockroy (64.8° S, 63.5° W) October 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.2	18	300					2.50
01		(7.7)	21	310			----		2.50
02		7.5	21	315				0.8	2.45
03		7.3	23	305				1.1	2.45
04		7.1	22	300			1.65		2.50
05		7.0	27	280			1.80		2.50
06		7.4	30	255			2.30		2.70
07		7.8	29	245			2.65		2.80
08		8.0	30	235			<3.00		2.90
09		8.9	29	230			3.20		2.95
10		9.3	27	230			3.30	3.2	<3.00
11		9.8	25	230			<3.40		2.95
12		>10.1	29	220			3.40		3.00
13		10.1	28	230			3.30		3.05
14		9.9	31	225			3.30		3.10
15		9.5	31	230			3.15		3.10
16		9.3	29	235			2.95		3.10
17		9.0	29	240			2.65		3.05
18		9.0	30	245			2.25		3.00
19		8.8	26	250			1.80		2.95
20		9.0	26	260			1.50		2.80
21		8.9	24	270			----		2.70
22		8.8	22	275			----		2.60
23		8.4	22	280					2.55

Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 53

Resolute Bay, Canada (74.7° N, 94.9° W) September 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.2	29	295		---	---	1.3	2.5
01		5.0	29	290		---	1.3	2.5	2.55
02		4.9	29	270		---	1.5	2.5	2.5
03		5.0	30	290		---	1.4	3.5	2.6
04		5.0	30	290		---	1.3	3.3	2.5
05		4.9	30	290		125	1.6	2.6	2.5
06	---	5.2	30	280	---	110	1.8	3.2	2.7
07	---	5.3	30	270	---	110	2.1	3.1	2.7
08	(460)	5.7	30	260	3.6	105	2.4		2.6
09	500	5.6	30	260	4.1	105	2.5		2.5
10	420	5.4	30	250	4.1	105	2.7		2.5
11	460	5.4	28	240	4.1	105	2.8		2.5
12	450	5.6	28	240	4.1	100	2.8		2.5
13	420	5.8	29	240	4.2	105	2.8		2.5
14	480	5.7	29	250	4.3	105	2.8		2.5
15	420	5.9	29	250	4.2	110	2.7		2.5
16	430	5.7	29	255	4.1	105	2.5		2.6
17	(510)	5.9	30	260	3.8	110	2.3		2.6
18	(500)	5.8	30	270	3.5	110	2.0		2.65
19	---	5.4	30	280	---	110	1.8		2.5
20		5.3	30	290		115	1.5		2.5
21		5.4	30	290		---	1.4	1.4	2.5
22		5.5	30	280		---	---	2.2	2.6
23		5.2	29	290		---	---	1.5	2.5

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 54

Kiruna, Sweden (67.8° N, 20.3° E) September 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.9)	6	(380)				5.0	---
01		(4.4)	7	(360)				4.6	(2.4)
02		4.4	10	370				4.0	2.4
03		(4.0)	9	340				3.3	(2.4)
04		(5.3)	9	335		---	---	3.0	(2.6)
05		4.9	20	290		---	2.0		2.7
06	---	5.2	20	<275	---	---	2.0		2.8
07	---	6.0	20	250	---	110	2.4		2.8
08	(420)	6.1	23	245	4.2	110	2.6		2.8
09	---	6.4	26	245	4.6	110	2.8		2.7
10	(410)	6.6	27	240	4.6	110	3.0		2.7
11	(435)	7.0	27	240	4.8	110	3.0		2.7
12	---	7.1	30	240	4.7	110	3.0		2.7
13	(430)	7.0	29	235	4.8	110	3.0		2.7
14	---	6.9	28	240	4.5	110	2.8		2.7
15	---	6.7	28	245	---	115	2.8		2.8
16	---	6.4	28	255	---	120	2.5		2.8
17	---	6.0	28	265	---	130	2.2	3.0	2.8
18		5.8	20	270		---	1.9	2.9	2.8
19		5.2	20	295		---	---	3.8	2.7
20		5.3	12	325		---	---	4.6	2.6
21		(4.3)	7	325				4.2	(2.5)
22		(4.8)	6	370				4.5	(2.5)
23		(6.0)	3	375				5.0	---

Time: 15.0°E.
Sweep: 0.8 Mc to 17.0 Mc in 30 seconds.

Table 55

Sodankyla, Finland (67.4° N, 26.6° E) September 1959

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(6.4)	1	380				4.3	----
01		---	0	(370)				4.6	
02		(5.4)	3	365				4.2	----
03		(5.2)	3	360		---	----	4.2	----
04		(4.4)	2	365		---	----	4.0	----
05		(4.2)	8	340		---	E	3.5	(2,50)
06		4.7	14	300	---	140	1.95	2.7	2.70
07		5.6	19	270	---	130	2.35	2.5	2.80
08		6.1	19	260	---	120	2.65	4.0	2.75
09		6.3	22	255	---	115	2.90	4.0	2.70
10		6.7	24	245	---	115	3.00		2.70
11		7.1	19	240	---	115	3.10	3.5	2.65
12		7.4	23	240	---	115	3.15		2.65
13		7.6	23	240	---	120	3.20		2.70
14		7.4	25	240	---	115	3.05		2.65
15		7.5	22	245		120	3.00		2.75
16		6.9	23	255		120	2.80	3.6	2.80
17		6.8	17	265		120	2.60	4.2	2.85
18		6.8	12	275		---	----	4.0	2.85
19		6.2	12	280		<170	1.90	4.2	2.75
20		6.0	10	295		---	E	3.6	2.80
21		(6.4)	6	300		---	E	4.5	(2.80)
22		(5.4)	5	300		---	----	4.1	(2.65)
23		(5.5)	5	355		---	----	4.7	(2.50)

Time: 30.0°E.
Sweep: 1.4 Mc to 22.0 Mc in 8 minutes, automatic operation.

Table 56

Lycksele, Sweden (64.6° N, 18.8° E) June 1959

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00	---	6.1	24	315		---	1.25	4.1	2.4
01	---	5.8	27	310	---	120	1.30	4.2	2.45
02	340	6.0	25	300	2.9	105	1.60	4.1	2.4
03	385	6.3	27	270	3.5	110	2.00	4.4	2.4
04	385	6.3	27	250	4.0	110	2.35	4.7	2.4
05	395	6.4	28	240	4.3	105	2.70	5.0	2.5
06	400	6.6	30	240	4.6	105	3.00	5.0	2.5
07	420	6.8	29	235	4.9	105	3.20	5.6	2.5
08	415	7.0	30	230	5.1	100	3.35	5.2	2.45
09	435	7.2	30	225	5.3	100	3.50	5.8	2.5
10	430	7.2	28	220	5.3	100	3.60	5.8	2.4
11	445	7.3	29	215	5.4	100	3.60	5.8	2.5
12	455	7.1	30	215	5.6	100	3.60	5.9	2.5
13	435	7.2	28	220	5.4	100	3.60	5.9	2.5
14	440	6.8	29	215	5.4	100	3.50	5.3	2.4
15	445	6.8	28	225	5.3	100	3.50	5.2	2.45
16	410	6.8	28	225	5.1	100	3.30	5.5	2.5
17	360	6.7	30	235	4.8	105	3.10	4.8	2.6
18	350	6.6	30	245	4.6	105	2.80	4.7	2.6
19	325	6.6	29	250	4.2	110	2.40	4.8	2.6
20	350	6.7	29	270	3.6	115	2.10	4.0	2.6
21	---	6.6	28	290	---	110	1.60	3.6	2.6
22	---	6.4	28	300	---	115	1.45	3.5	2.55
23	---	6.0	25	310	---	110	1.20	3.1	2.5

Time: 15.0°E.
Sweep: 0.3 Mc to 20.0 Mc in 3 minutes.
Occasionally, 1.4 Mc to 16.0 Mc in 6 minutes, automatic operation.

Table 57

Murmansk, U.S.S.R. (69.0° N, 33.0° E) September 1958

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.0	13	(355)				<2.8	2.40
01		(5.9)	15	(350)				<2.8	(2,35)
02		(6.1)	13	<350				<2.4	2.40
03		>5.2	11	<350				<2.5	(2.50)
04		(6.0)	17	300		---	----	<1.8	(2.45)
05		(6.2)	10	<295		---	<1.60	<2.3	(2.55)
06	---	(6.8)	24	265	---	---	<2.55		(2.65)
07	(290)	7.5	23	250	---	---	<2.80		2.65
08	<265	8.0	26	250	---	---	<3.00		2.65
09	(405)	8.4	24	245	---	---	<3.00		2.60
10	390	8.8	26	240	5.2	---	<3.20		2.60
11	<400	9.1	25	240	5.2	---	<3.20		2.60
12	(420)	9.8	26	235	5.2	119	<3.30		2.60
13	<355	9.3	26	230	---	<115	<3.20		2.60
14	<280	9.0	23	240	---	---	<3.20		2.60
15	(300)	9.2	26	245	---	---	<3.00		2.60
16	<410	9.0	23	250	---	---	<3.00	<3.0	2.70
17	---	8.2	24	<260		---	<2.70	<2.8	2.70
18	---	7.7	23	270		---	<2.90		2.70
19	---	8.8	19	260		---	----	<2.7	2.70
20		7.6	18	(280)		---	----	<2.4	2.60
21		7.4	14	300		---	----	<3.0	2.60
22		6.4	14	<325				3.4	(2.55)
23		(6.2)	15	(350)				3.3	(2.35)

Time: 30.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 58

Poitiers, France (46.6° N, 0.3° E) September 1958

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(7.8)	30	300	---			2.5	(2.35)
01		(7.5)	30	310	---			2.4	(2.40)
02		(7.3)	30	300	---			2.2	(2.40)
03		6.8	30	300	---			2.2	2.45
04		6.5	30	285					2.50
05		6.0	30	270		---	E	1.9	2.60
06	---	(7.6)	29	250	---	---	1.85	2.5	2.85
07	---	(9.0)	29	240	---	110	2.65	3.0	2.80
08	(300)	10.1	29	235	(4.8)	105	3.20	3.6	2.85
09	315	(11.2)	30	<230	(5.6)	105	3.50	3.9	2.80
10	350	(11.8)	30	230	(6.2)	105	3.70	4.1	2.70
11	360	11.6	30	230	(6.9)	105	3.80	4.2	2.60
12	<380	11.7	30	(235)	(6.6)	105	3.80	4.0	2.50
13	360	11.5	30	230	(6.5)	105	3.80	4.0	2.55
14	350	(11.4)	30	235	(6.6)	105	3.70		2.50
15	350	11.2	30	240	(6.5)	105	3.45	3.5	2.55
16	(365)	>11.1	30	250	(6.2)	(110)	3.20	3.8	(2.65)
17	---	>11.0	30	255	---	115	2.70	3.4	----
18		>10.4	30	260		---	E	3.6	----
19		>9.5	30	255		---	E	3.2	----
20		>8.5	30	250		---	----	2.9	(2.55)
21		>8.0	30	265				2.6	(2.45)
22		>8.0	29	(280)				2.5	(2.40)
23		7.8	30	290				2.4	(2.30)

Time: 0.0°.
Sweep: 1.6 Mc to 17.0 Mc in 1 minute.

Table 59

Rabat, Morocco (30.9° N, 6.8° W) September 1958

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>9.0	27	<295				2.0	(2.50)
01		>9.0	27	<295				1.9	----
02		>9.0	27	<290				1.8	(2.60)
03		(8.8)	27	<270					2.60
04		(8.4)	27	<270					2.60
05		7.3	27	<250				1.7	2.60
06	---	7.4	28	250	---	---	E		2.80
07	---	(9.8)	28	230	---	115	2.50		3.10
08	(250)	11.0	28	230	---	105	3.15	3.4	3.10
09	(250)	11.2	28	225	---	105	3.50		3.00
10	---	11.3	28	215	---	100	3.80		2.80
11	(340)	11.8	28	230	---	105	3.90		2.60
12	380	12.1	28	<230	---	105	----		2.55
13	365	12.5	28	230	6.6	110	----		2.55
14	370	12.6	28	235	6.3	105	(3.95)		2.50
15	370	12.4	28	240	6.4	105	3.70		2.50
16	350	12.5	27	245	---	100	3.50	3.9	2.55
17	---	12.4	28	250		105	3.05	3.8	2.60
18	---	(12.1)	30	<270		110	2.20	3.4	2.70
19		(10.5)	30	(250)		---	----	3.2	----
20		(9.5)	28	<270				3.2	(2.55)
21		>9.0	29	<300				3.2	(2.50)
22		>9.0	29	<300				2.2	----
23		>9.0	27	<295				2.1	----

Time: 0.0°.
Sweep: 1.6 Mc to 17.0 Mc in 1 minute.

Table 60

Tamanrasset, French W. Africa (22.8° N, 5.5° E) September 1958

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		D	26	250		---	E	2.0	----
01		>14.5	24	250		---	E	2.0	----
02		>12.6	21	240		---	E	2.0	(3,20)
03		>9.2	24	225		---	E	2.0	(3,15)
04		>8.0	27	235		---	E	2.1	(2,75)
05		>7.8	27	<250		---	E	2.3	(2,85)
06		>10.1	28	250		115	(2.20)	2.6	(3,20)
07		11.6	30	235		105	(3,10)	3.6	3,25
08		12.0	30	230		100	(3,65)	4.3	2,95
09	---	12.6	29	220		100	(3.90)	4.7	2.70
10	---	13.7	29	215		100	4.10	4.7	2,60
11	(430)	14.4	30	<220		105	4.25	4.8	2.50
12	440	>15.0	29	215	---	105	(4,25)	4.4	(2.50)
13	430	>15.5	29	225	---	100	(4.20)		(2.50)
14	415	D	29	230		105	(4.05)		----
15	400	D	29	240		105	3.70		
16	(395)	>15.7	30	250		105	3.20	3.4	
17		>15.5	29	265		<110	2.30	2.9	----
18		>14.6	27	300		---	E	2.2	
19		>15.5	28	360		---	E	2.1	
20		>15.5	17	330		---	E	2.0	
21		>15.2	26	300		---	----	2.0	
22		0	18	290		---	----	2.0	
23		>16.0	21	270		---	----	2.0	

Time: 0.0°.
Sweep: 1.2 Mc to 17.0 Mc in 1 minute.

Table 61

Dakar, French W. Africa (14.7° N, 17.4° W) — 5eptember 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(16.8)	3	315					----
01		>17.0	1	265					
02		(10.2)	3	240					----
03		(13.5)	5	205					----
04		8.2	11	200		---	----		(3.05)
05		7.4	12	200		---	E		3.10
06		6.5	17	200		---	E	2.3	3.20
07		7.2	19	230		---	----	2.9	3.10
08		>10.1	16	210		100	2.80		3.15
09		12.1	15	200		95	3.50	3.5	3.05
10		13.6	17	195		95	3.90	4.2	2.75
11		>14.0	17	(190)		95	----	(4.4)	(2.65)
12		>15.0	12	---	---	90	----	(4.3)	----
13	---	>15.0	12	---	---	90	----		----
14	---	>15.0	11	---	---	95	----	(6.4)	----
15	(405)	>15.0	14	(195)	---	95	----	4.6	----
16	---	>15.1	14	200		95	(3.90)	4.1	----
17		>14.5	7	210		95	3.50	4.0	
18		>14.0	9	225		100	2.85	3.3	----
19		>14.0	3	260		---	----	3.8	----
20		>14.0	4	370		---	E	3.0	----
21		>14.0	2	385		---	----	2.3	----
22		----	0	360		---	----	2.2	
23		(12.9)	1	345		---	----	2.4	----

Time: 0.0°.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes.

Table 62

Ojibouti, French 5omalland (11.6° N, 43.2° E) — 5eptember 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(7.8)	1	275				2.2	----
01		>8.4	8	250				1.9	----
02		(7.2)	6	235				1.8	----
03		>7.0	9	230					(3.00)
04		(7.0)	8	230		---	----	1.9	(2.95)
05		>6.9	14	220		---	----	2.0	3.10
06		7.4	16	250		---	E	2.1	2.90
07		(10.8)	6	240		110	2.80	3.5	(2.95)
08		(12.7)	3	235		110	3.40	4.3	----
09		(14.2)	1	225		110	3.80	5.2	----
10		>12.2	1	<220		---	(4.10)	6.8	
11		>13.1	6	210		---	(4.40)	7.0	----
12		(12.7)	7	(220)		---	----	7.0	----
13		>12.4	4	(215)		---	(4.30)	6.8	----
14	--	>13.0	7	225		110	4.15	6.6	(2.20)
15	---	(13.2)	4	230		110	3.95	4.7	----
16	---	>12.7	4	235	---	---	3.50	6.0	----
17	---	(12.8)	5	250		---	(2.80)	5.5	----
18		>8.0	1	290		---	(1.90)	3.9	
19		(8.6)	9	410		---	E		(1.90)
20		>8.5	4	(380)		---	----		----
21		(8.4)	3	(375)		---	----		----
22		(8.7)	3	360				1.9	----
23		(8.4)	1	(305)				2.2	----

Time: 45.0°E.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes.

Table 63

Paramaribo, 5urinam (5.8° N, 55.2° W) — 5eptember 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		>15.4	26	300					----
01		(15.8)	27	270					----
02		(15.4)	25	260					(2.60)
03		(15.5)	26	255					(2.75)
04		>13.0	27	240					2.90
05		10.8	26	220					2.80
06		9.5	26	240					2.80
07		8.4	28	240					3.00
08		6.6	27	220					2.90
09		6.2	28	250		---	---		2.65
10		8.8	27	250		120	2.3		2.95
11		11.2	28	240		110	3.2		2.90
12		>12.7	27	250		110	3.7		2.75
13		>13.2	28	<255		120	4.1		2.70
14	---	>13.2	28	<265	---	---	---		2.60
15	400	>13.3	27	<280	(7.4)	---	---		(2.50)
16	400	>13.4	27	<280	(7.4)	---	---		(2.45)
17	400	(14.4)	28	<300	7.2	---	---		2.45
18	400	>13.4	28	<290	(7.0)	120	---		2.50
19	420	>13.0	26	<275	(7.3)	120	3.8	4.6	(2.40)
20	(400)	>13.0	28	250	(7.0)	110	3.2	4.4	2.40
21		(13.0)	28	270		100	2.6	3.4	2.40
22		>13.0	27	320		---	---	3.0	2.30
23		>14.0	25	350				2.2	2.40

Time: 0.0°.
Sweep: 1.4 Mc to 20.0 Mc in 40 seconds.

Table 64

Bangui, French Equatorial Africa (4.6° N, 18.6° E) — September 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>11.3	6	250					----
01		>10.9	10	250				2.3	----
02		>10.6	8	240		---	----	1.9	----
03		>10.0	10	225				2.4	(3.00)
04		>8.5	15	220				2.8	(3.15)
05		>6.4	16	215				3.1	3.10
06		>8.6	20	260		(125)	1.95	3.3	2.90
07		11.8	23	240		105	3.10	4.7	2.90
08		13.3	22	235		105	3.70	5.0	2.70
09	---	14.0	23	225		100	4.00	5.4	2.45
10	---	>14.0	20	210		100	4.20	4.7	----
11	---	>13.5	19	200		100	4.35		----
12	---	>12.9	17	(200)		100	4.50		----
13	---	>12.4	15	205	---	100	4.30		----
14	---	>12.5	12	205		105	4.20		----
15	---	>12.6	10	215		105	4.00		----
16		(12.9)	17	240		105	(3.40)		----
17		>12.0	19	270		110	2.60		
18		>11.0	11	340		---	E		
19		>9.4	5	450		---	----		
20		>14.8	1	(375)					----
21		>14.0	1	(340)					
22		>14.2	1	300					
23		>10.5	4	260					----

Time: 15.0°E.
Sweep: 1.2 Mc to 17.0 Mc in 1 minute.

Table 65

Tahiti, 5ociety Is. (17.7° 5, 149.3° W) — 5eptember 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		13.3	17	225		---	E	2.4	3.00
01		11.3	13	225		---	(0.90)	2.0	3.00
02		8.6	15	240		---	(0.95)	2.6	2.70
03		>7.8	16	260		---	(0.90)	2.2	2.65
04		8.0	16	260		---	E	2.2	2.80
05		7.2	20	270		---	E	2.4	2.80
06	---	9.1	18	300		---	1.40	3.0	2.80
07	---	13.6	18	250		115	2.90	3.0	3.05
08	---	14.8	19	245		105	3.50		3.05
09	---	14.4	18	240		105	3.85		2.90
10	---	14.4	19	230		105	----		2.70
11	---	14.0	20	250	---	105	(4.30)		2.60
12	400	13.9	19	250	---	105	----	4.6	2.45
13	430	14.0	19	250	7.0	105	----	4.8	2.45
14	420	14.0	18	245	6.9	105	3.90	4.8	2.40
15	435	14.0	20	250	---	105	3.65	5.1	2.40
16	(435)	14.2	21	250		110	3.10	3.8	2.40
17	(435)	14.5	19	270		125	2.80	3.6	2.40
18		15.2	20	325		---	----	3.1	2.40
19		0	21	365		---	E	3.1	(2.45)
20		D	19	280		---	----	3.1	----
21		0	19	250		---	----	3.1	(2.70)
22		D	21	245		---	----	2.6	(2.90)
23		0	20	230		---	----	2.7	3.00

Time: 150.0°W.
Sweep: 1.2 Mc to 17.0 Mc in 1 minute.

Table 66

Tananarive, Madagascar (18.8° 5, 47.5° E) — 5eptember 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>8.0	22	220		---	E		3.10
01		6.0	22	220		---	----		3.00
02		5.3	23	240		---	E		2.70
03		5.2	24	260		---	E		2.80
04		5.1	25	265		---	E		2.85
05		5.0	25	255		---	E	1.6	2.85
06		8.0	21	250		---	E	1.6	3.15
07		11.3	23	230		110	2.95		3.20
08	---	12.5	16	225	---	100	(3.40)		3.10
09	---	(12.8)	8	215	---	100	(3.90)		(3.00)
10	---	>13.0	11	210	---	100	----	(3.8)	----
11	---	>12.6	16	205	---	100	----	(4.6)	2.80
12	---	12.2	16	200	---	100	----	(4.7)	2.65
13	(400)	12.2	17	200	---	100	----		2.50
14	(390)	12.2	18	220	---	100	----	(4.8)	2.50
15	---	12.0	20	230	---	105	3.65	4.2	2.50
16		11.8	22	<230		110	3.20	3.6	2.60
17		11.5	21	240		115	2.55	3.0	(2.65)
18		11.6	20	255		---	----	2.8	2.70
19		11.3	20	250		---	----	2.6	2.85
20		10.7	13	250		---	----		(2.75)
21		(10.9)	18	245		---	----		(2.85)
22		10.8	16	235		---	E		(3.00)
23		9.0	18	225		---	E		3.10

Time: 45.0°E.
Sweep: 1.25 to 20.0 Mc in 10 minutes.

Table 67

Oecepcion I. (63.0° S, 60.7° W) September 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.1	25	300					2.50
01		6.8	23	325					2.45
02		6.6	27	(325)					2.50
03		6.3	25	<320					2.45
04		6.0	23	<300					2.50
05		5.9	24	<280					2.60
06		5.8	27	275					2.55
07	(300)	7.0	24	220					2.80
08	---	8.5	17	210					3.05
09	---	9.5	16	200	(3.7)		---		3.25
10	---	11.0	12	200			---		3.20
11	---	12.9	12	200			---		3.10
12	(250)	12.4	19	200			---		3.10
13	---	(13.0)	3	(200)			---		----
14	---	12.5	18	200			---		3.00
15	---	11.8	21	215			---		3.00
16	---	11.6	18	210			---		3.00
17	---	10.9	11	215			---		3.10
18		(9.8)	4	210			---		----
19		9.8	13	210					3.10
20		8.4	18	215					2.90
21		7.8	24	240					2.70
22		7.5	25	260					2.65
23		7.6	27	290					2.55

Time: 45.0°W.
Sweep: 1.3 Mc to 18.0 Mc in 30 seconds.

Table 68

Tamanrasset, French W. Africa (22.8° N, 5.5° E) August 1958*

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>14.5	17	290		---	----	2.0	----
01		>12.9	18	265		---	E	2.2	(2.65)
02		>12.1	20	260		---	E	2.0	(3.00)
03		>9.5	19	255		---	E	2.2	(2.90)
04		>8.3	18	250		---	E	2.2	3.00
05		>7.8	22	255		---	E	2.4	3.00
06		>9.1	23	240		115	(2.40)	2.8	3.25
07		9.5	23	240		105	3.20	3.7	3.20
08		9.9	23	225		105	(3.70)	4.5	3.00
09		10.6	24	220		105	(4.05)	4.5	2.65
10	---	11.9	23	225		(105)	(4.25)	4.9	2.50
11	410	13.1	24	215	---	(105)	(4.30)	4.7	2.55
12	405	14.0	24	220	---	105	4.35	4.8	2.55
13	435	14.9	24	215	---	100	4.30		2.50
14	420	>15.0	24	220	---	(105)	4.15		2.50
15	405	(15.2)	24	230	---	(105)	3.85		(2.60)
16	380	>15.0	24	240		105	3.45	3.5	(2.55)
17	---	>15.0	24	255		110	2.75	3.2	----
18		>14.5	25	285		---	E	2.6	----
19		>14.2	25	350		---	E	2.3	----
20		>14.0	17	350		---	E	2.2	----
21		>14.0	17	<350		---	----	2.0	
22		>14.2	16	330		---	----	1.9	
23		>14.4	18	315		---	----	2.0	----

Time: 0.0°.
Sweep: 1.2 Mc to 17.0 Mc in 1 minute.
*Observations taken 7 through 31 only.

Table 69

Murmansk, O. S. S. R. (69.0° N, 33.0° E) September 1957

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.6)	15	<370				3.0	(2.50)
01		(5.3)	15	(390)				3.2	(2.45)
02		(5.2)	17	(370)				3.3	(2.45)
03	---	5.0	14	<330			----	2.2	2.50
04	---	5.1	15	<300			<1.65	<2.0	2.70
05	---	5.6	12	(280)			<2.00	<2.0	2.80
06	<320	6.0	17	270			<2.20	<2.5	2.80
07	---	7.0	16	(260)			<2.60	<2.7	2.80
08	<300	7.2	17	250	---		2.90	(2.9)	2.80
09	<320	8.0	16	240	---		3.00	<3.1	2.80
10	<370	8.3	21	(240)	---		<3.20	<3.6	2.75
11	<330	8.8	23	(240)	---		(3.30)	<3.4	2.75
12	<320	9.0	22	<240	---		(3.20)	<3.3	2.65
13	<295	9.0	22	(240)	---		3.10	<3.3	2.70
14	<295	8.8	21	(240)	---		3.00	<3.2	2.75
15	<300	8.6	17	240	---		<3.00	<3.2	2.75
16	<310	8.6	15	(240)	---		(2.70)	<3.3	2.90
17	<305	7.4	16	240	---		(2.45)	<3.0	2.85
18	<300	8.0	17	250			<2.00	<3.2	2.85
19	---	6.3	19	<270			----	<3.1	2.80
20		6.2	16	<320			----	3.5	2.70
21		(5.6)	17	<370			----	<3.6	2.65
22		(5.5)	18	<380			----	<3.4	2.55
23		(5.7)	17	<380				<3.4	(2.50)

Time: 30.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 70

Lulea, Sweden (65.6° N, 22.1° E) Oecember 1955

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.0	20	310					2.5
01		(3.0)	22	330				2.0	2.6
02		3.0	24	325					2.6
03		3.0	25	310					2.6
04		3.0	24	300					2.6
05		2.5	24	290					2.7
06		2.4	25	290					2.7
07		2.0	23	300					2.7
08		>2.9	29	275					2.7
09		4.8	28	240		---	---		2.8
10		7.0	30	230		---	1.7	2.2	2.9
11		8.0	29	230		---	1.8	2.2	2.9
12		9.0	29	225		---	1.8	2.4	2.9
13		(9.0)	29	220		---	1.7	2.0	2.9
14		7.4	30	220					2.8
15		6.9	29	225					2.8
16		5.0	21	225					2.8
17		3.5	20	240					2.8
18		>2.5	23	265					2.7
19		(2.4)	18	290					2.7
20		(2.4)	19	320					2.7
21		(2.4)	16	<340				2.3	(2.6)
22		(3.5)	17	330					(2.6)
23		>3.5	15	<315				2.0	---

Time: 15.0°E.
Sweep: 1.5 Mc to 10.0 Mc in 9 minutes, automatic operation.

Table 71

Lulea, Sweden (65.6° N, 22.1° E) September 1955

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(2.4)	7	300					(2.7)
01		(3.0)	3	350					---
02		(2.4)	7	(325)					---
03		(2.4)	11	380					(2.8)
04		(2.4)	14	310					(2.7)
05		(2.7)	14	270		---	E		(3.1)
06		3.8	19	240	---	---	2.0		3.1
07	---	4.5	23	210	---	130	2.3		3.0
08	340	4.7	25	210	3.7	100	2.4		3.1
09	300	5.4	25	200	4.0	100	2.5		3.1
10	300	5.5	28	200	4.0	100	2.6		3.1
11	290	5.6	28	200	3.9	---	2.7		3.2
12	280	5.5	26	200	4.0	---	2.6		3.2
13	(275)	5.6	27	200	3.7	---	2.6		3.2
14	(255)	5.6	28	200	---	105	2.5		3.2
15	---	5.5	27	210	---	100	2.3		3.2
16		5.4	28	220		100	2.2		3.2
17		5.3	27	240		---	1.9		3.2
18		5.3	25	250		---	E		3.1
19		5.0	16	250					3.0
20		(4.4)	10	250					(3.0)
21		(4.5)	7	250					(2.9)
22		(2.4)	4	270					---
23		(2.0)	9	300					(2.7)

Time: 15.0°E.
Sweep: 1.5 Mc to 10.0 Mc in 9 minutes, automatic operation.

Table 72

Lulea, Sweden (65.6° N, 22.1° E) September 1954

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(2.2)	8	---				2.4	
01									
02		(2.4)	6	---				2.1	
03									
04		2.2	11	(295)					
05									
06		(3.3)	9	240		140	1.9		
07									
08	---	4.0	14	200	3.6	110	2.2		
09									
10	300	4.4	19	200	3.7	115	2.5		
11									
12	300	4.6	18	200	3.7	110	2.5		
13									
14	---	4.5	15	200	---	120	2.4		
15									
16	---	4.3	16	240	---	140	1.9		
17									
18		(3.8)	9	250		---	E		
19									
20		(2.7)	7	(250)					
21									
22		(2.4)	8	---					
23									

Time: 15.0°E.
Sweep: 1.5 Mc to 10.0 Mc in 9 minutes, automatic operation.

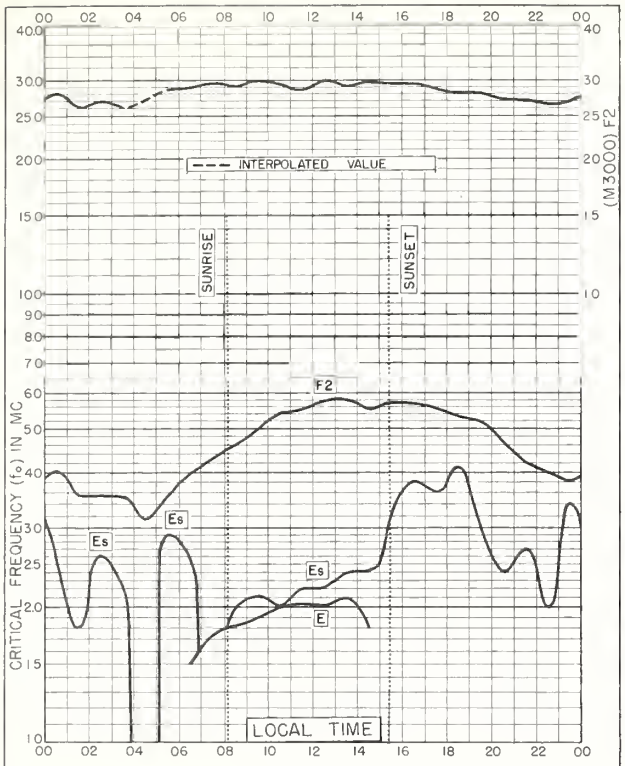


Fig. 1. THULE, GREENLAND
76.0°N, 68.0°W OCTOBER 1960

NBS 503

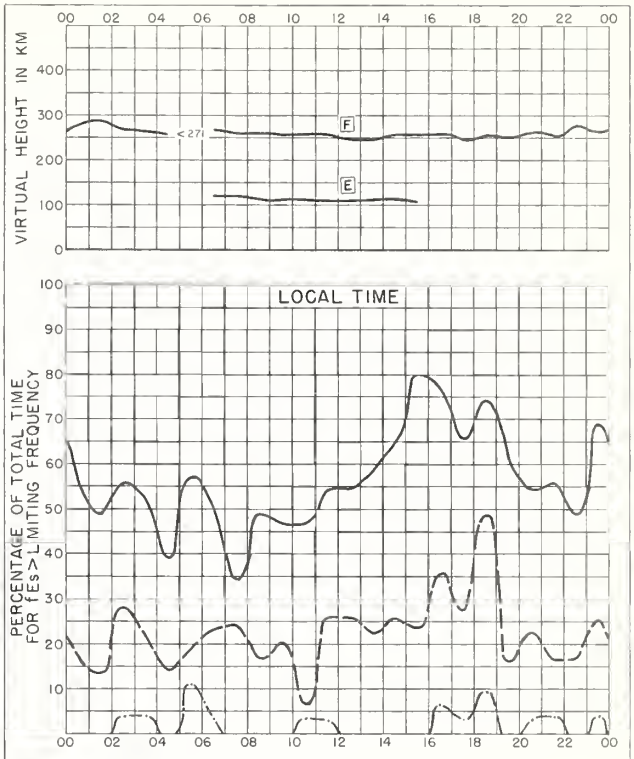


Fig. 2. THULE, GREENLAND OCTOBER 1960

NBS 490

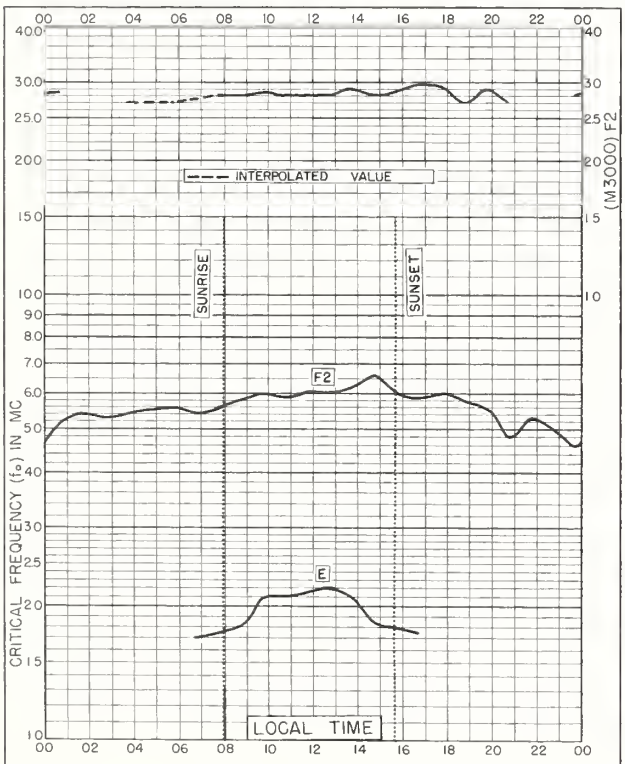


Fig. 3. RESOLUTE BAY, CANADA
74.7°N, 94.9°W OCTOBER 1960

NBS 503

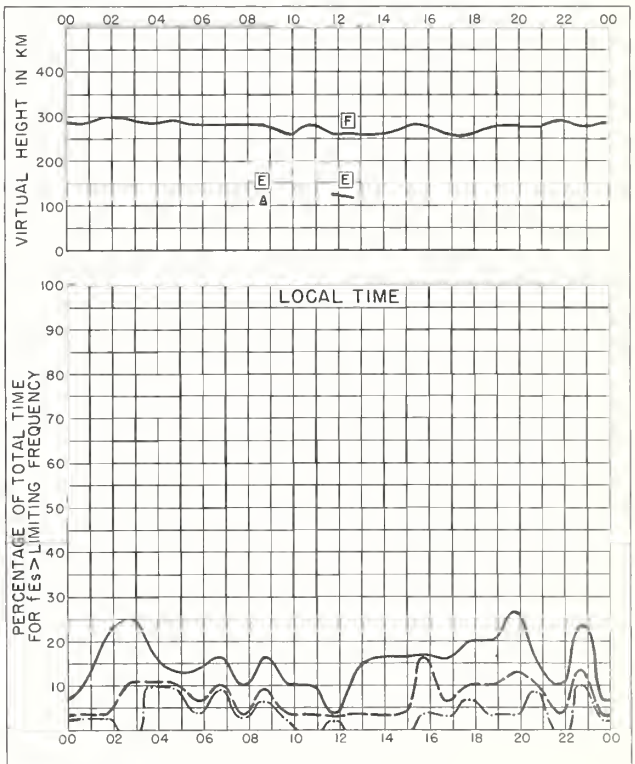


Fig. 4. RESOLUTE BAY, CANADA OCTOBER 1960

NBS 490

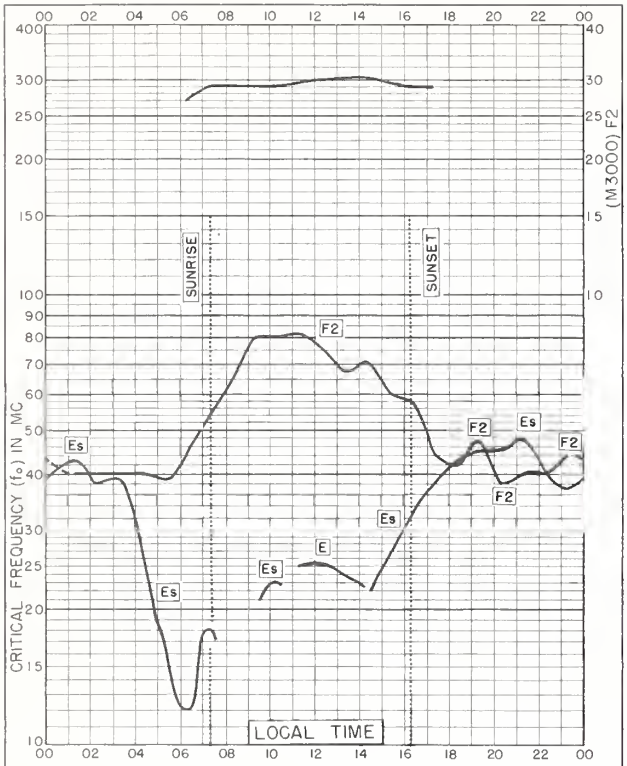


Fig. 5. TROMSO, NORWAY
69.7°N, 19.0°E OCTOBER 1960

NBS 503

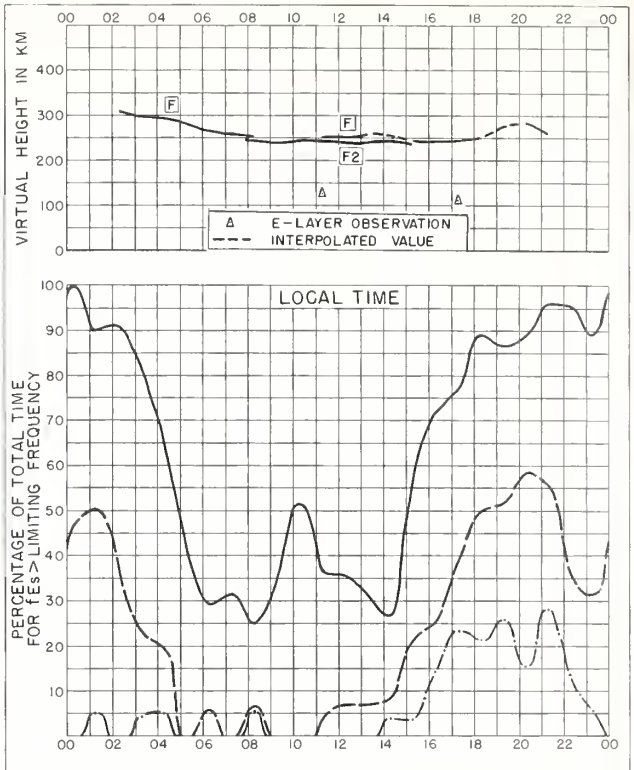


Fig. 6. TROMSO, NORWAY OCTOBER 1960

NBS 490

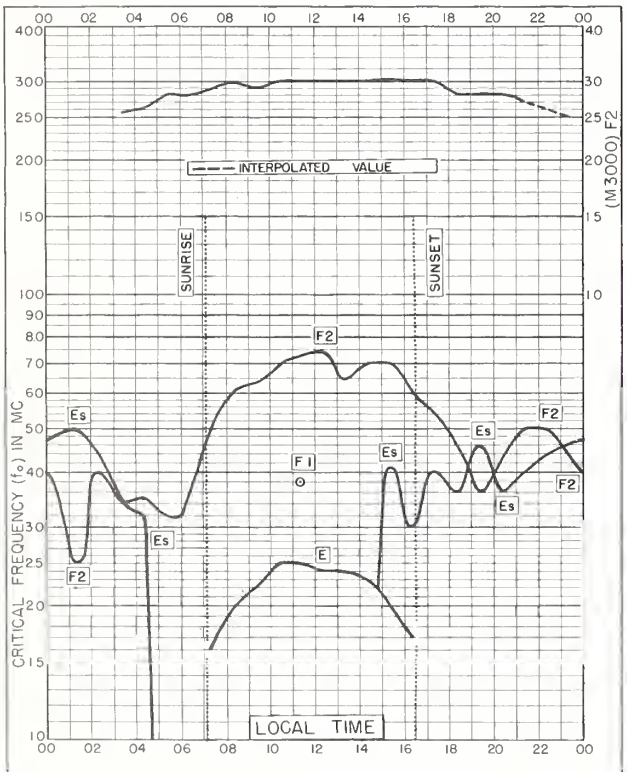


Fig. 7. KIRUNA, SWEDEN
67.8°N, 20.3°E OCTOBER 1960

NBS 503

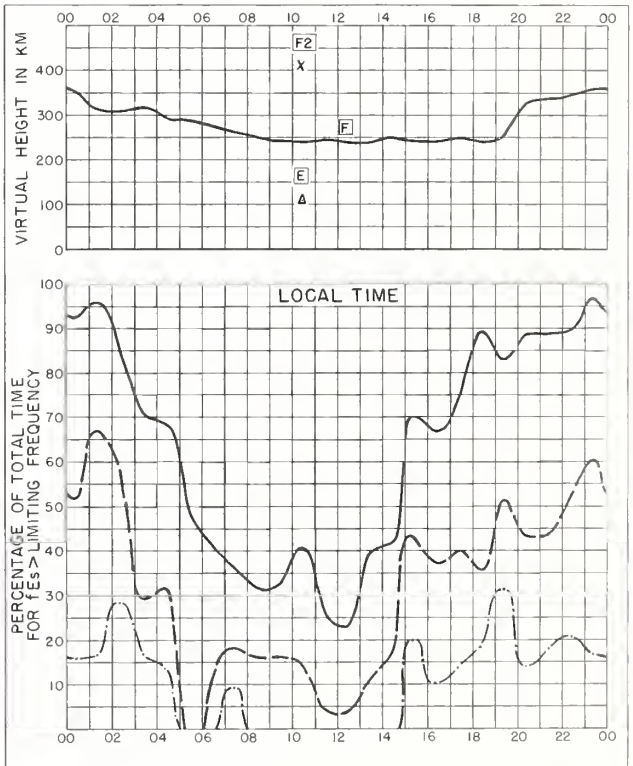


Fig. 8. KIRUNA, SWEDEN OCTOBER 1960

NBS 490

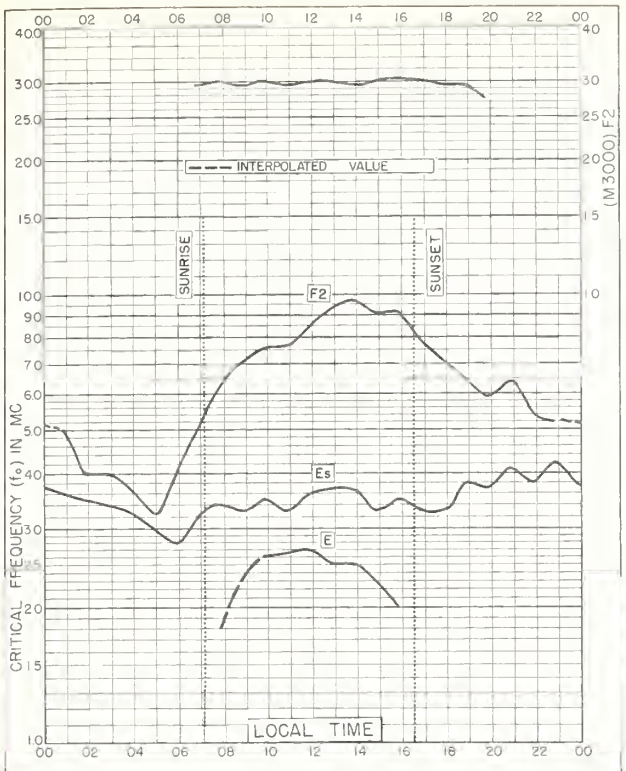


Fig. 9. SODANKYLA, FINLAND
67.4°N, 26.6°E OCTOBER 1960

NBS 503

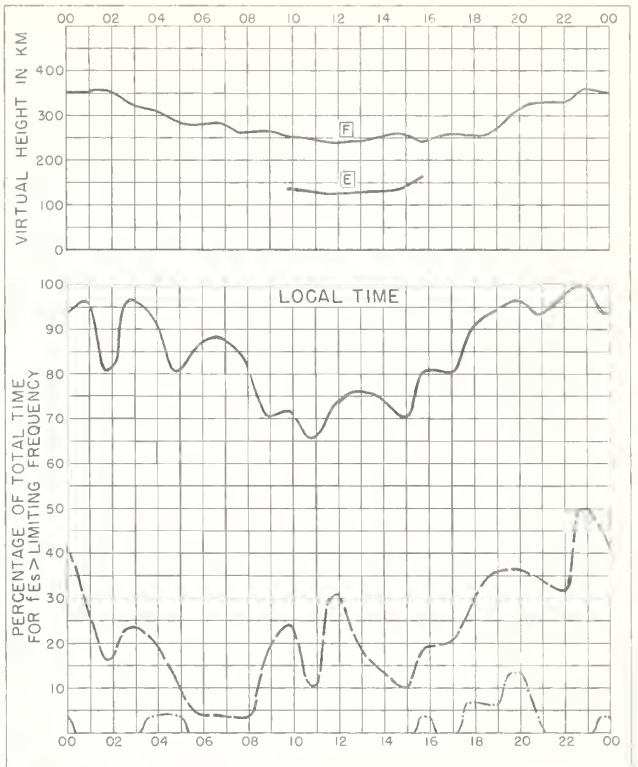


Fig. 10. SODANKYLA, FINLAND OCTOBER 1960

NBS 490

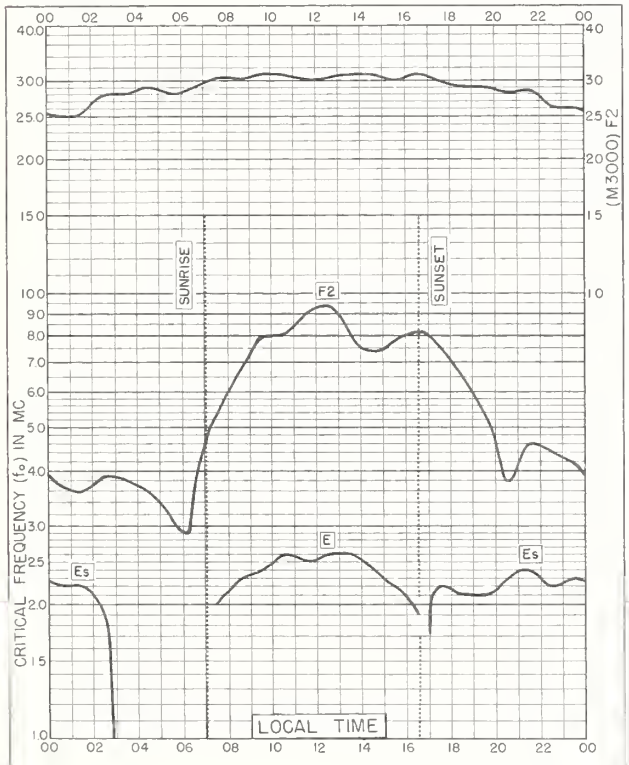


Fig. 11. LULEA, SWEDEN
65.6°N, 22.1°E OCTOBER 1960

NBS 503

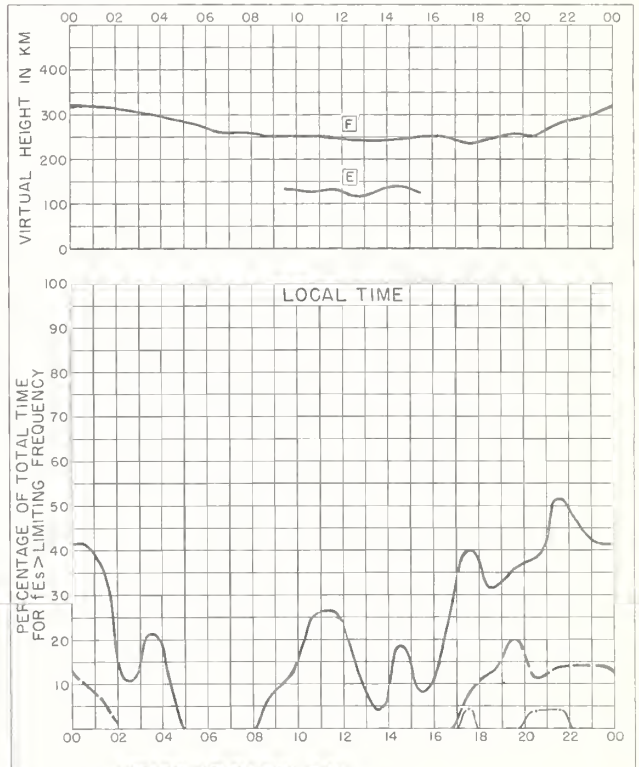


Fig. 12. LULEA, SWEDEN OCTOBER 1960

NBS 490

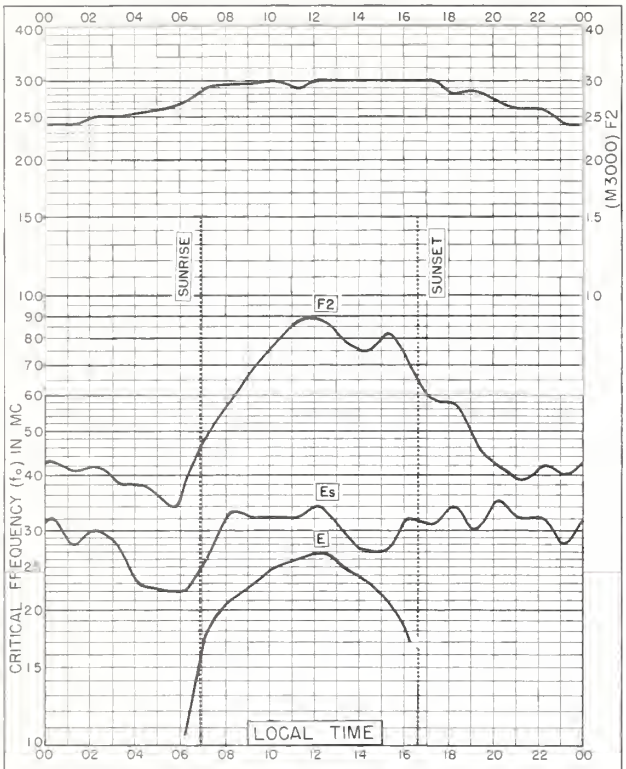


Fig. 13. LYCKSELE, SWEDEN
64.6°N, 18.8°E OCTOBER 1960

NBS 503

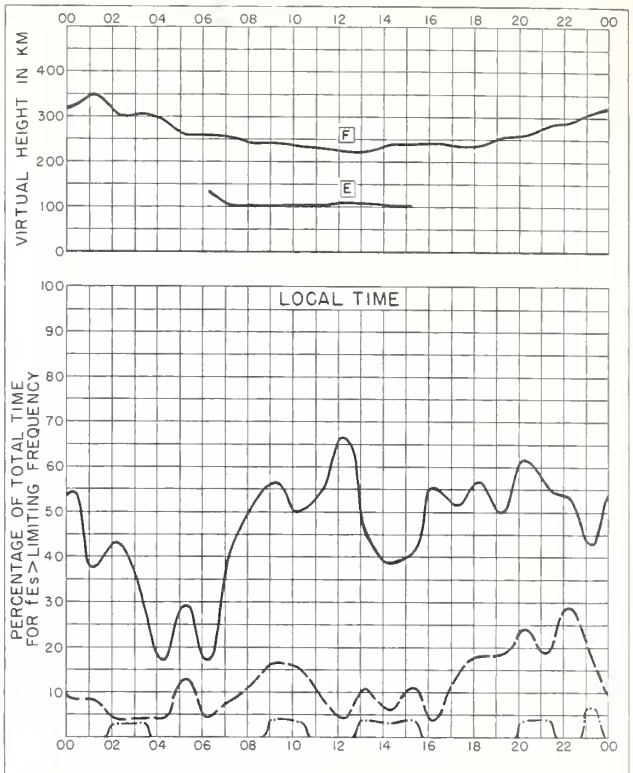


Fig. 14. LYCKSELE, SWEDEN OCTOBER 1960

NBS 490

Fig. 15. NURMIJARVI, FINLAND
60.5°N, 24.6°E OCTOBER 1960

NBS 503

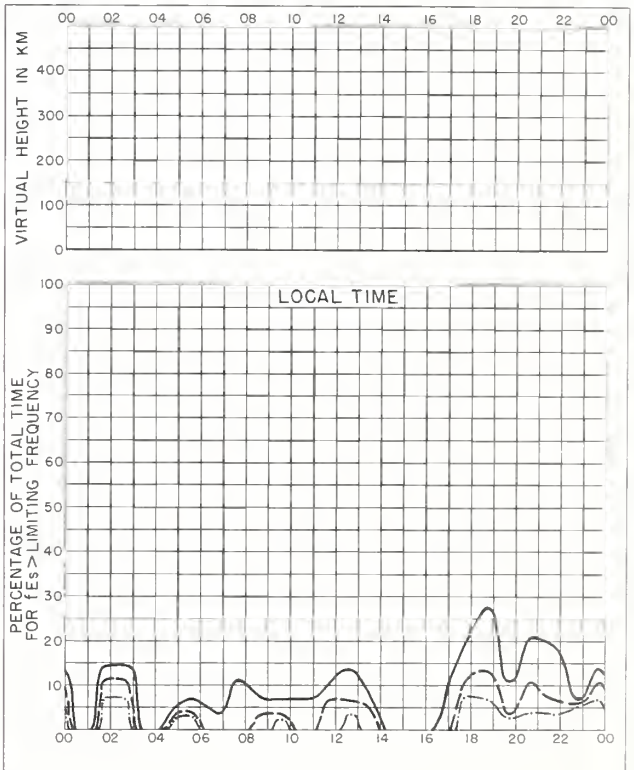


Fig. 16. NURMIJARVI, FINLAND OCTOBER 1960

NBS 490

Fig. 17. UPSALA, SWEDEN
59.8°N, 17.6°E OCTOBER 1960

NBS 503

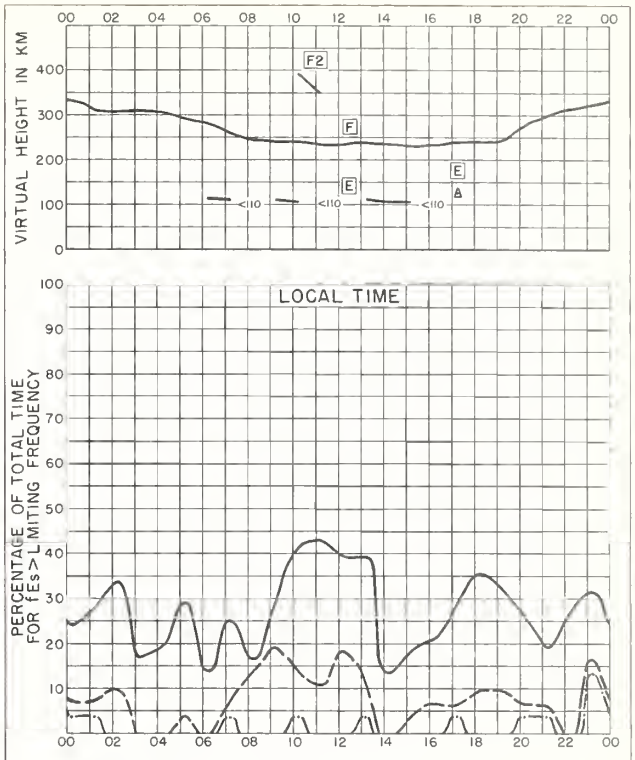


Fig 18. UPSALA, SWEDEN OCTOBER 1960

NBS 490

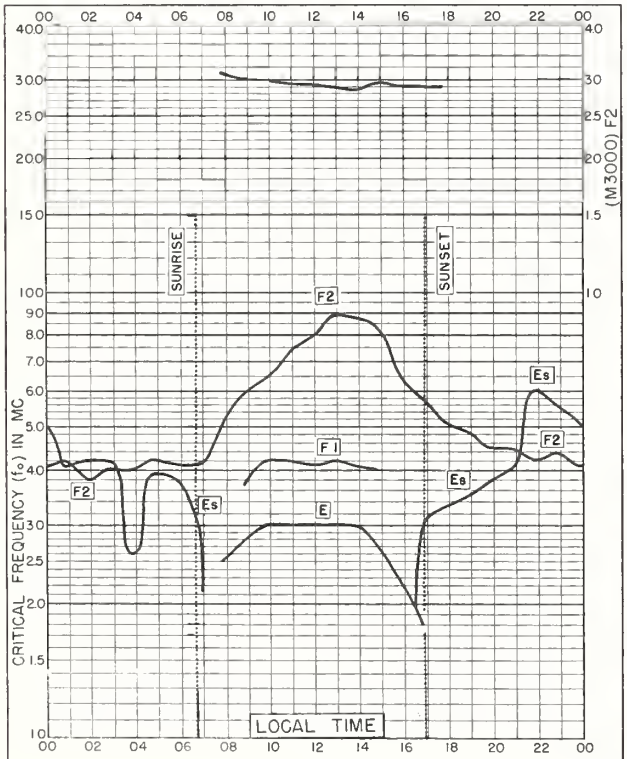


Fig. 19. CHURCHILL, CANADA
58.8°N, 94.2°W OCTOBER 1960

NBS 503

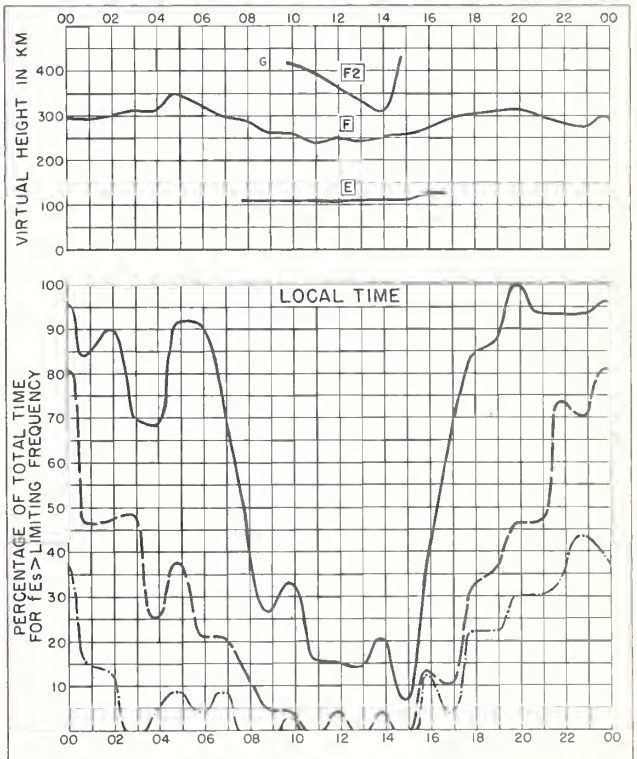


Fig. 20. CHURCHILL, CANADA OCTOBER 1960

NBS 490

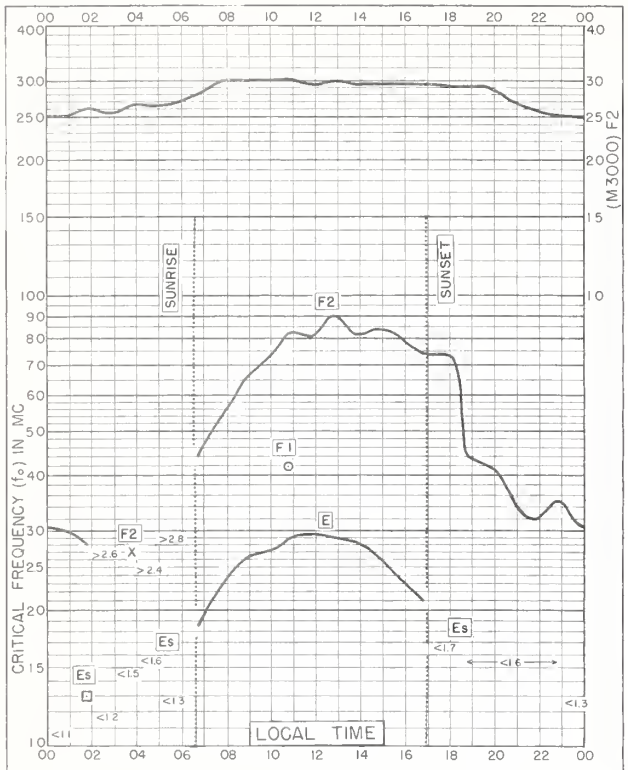


Fig. 21. INVERNESS, SCOTLAND
57.4°N, 4.2°W OCTOBER 1960

NBS 503

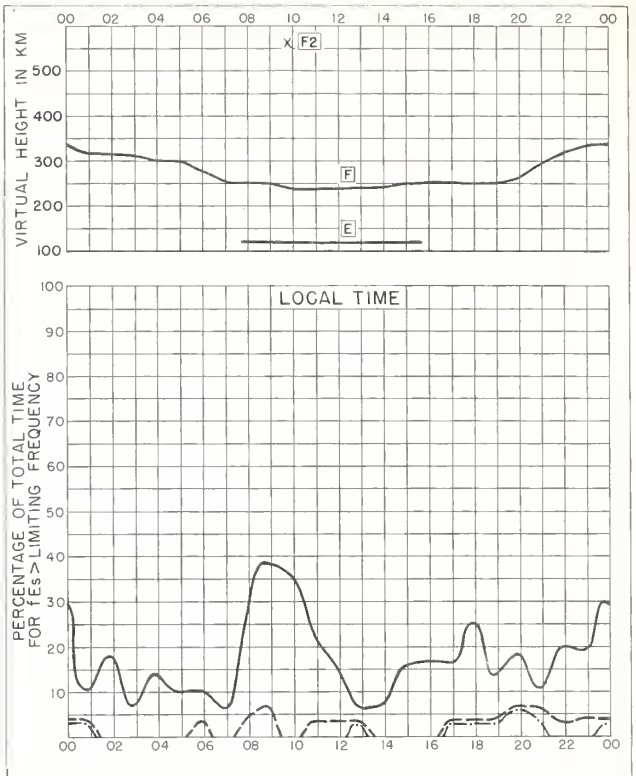


Fig. 22. INVERNESS, SCOTLAND OCTOBER 1960

NBS 490

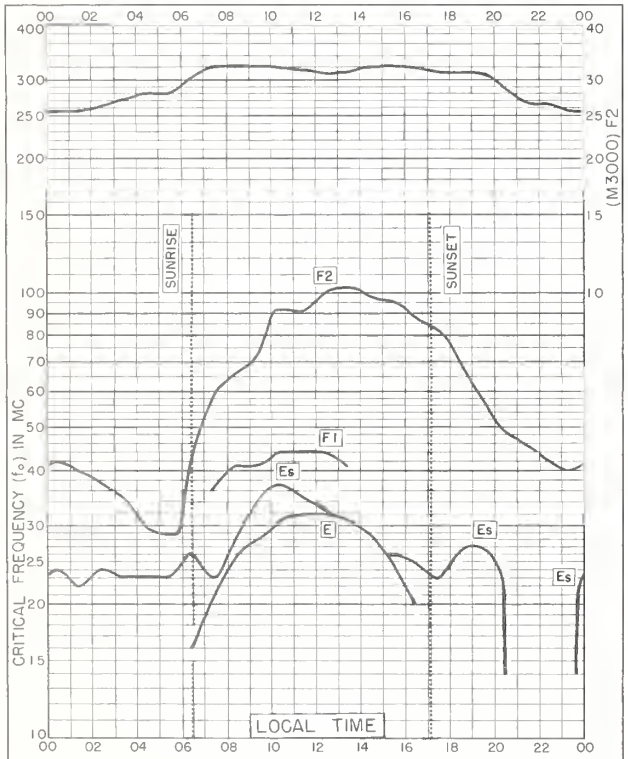


Fig. 23. De BILT, HOLLAND
52.1°N, 5.2°E OCTOBER 1960

NBS 503

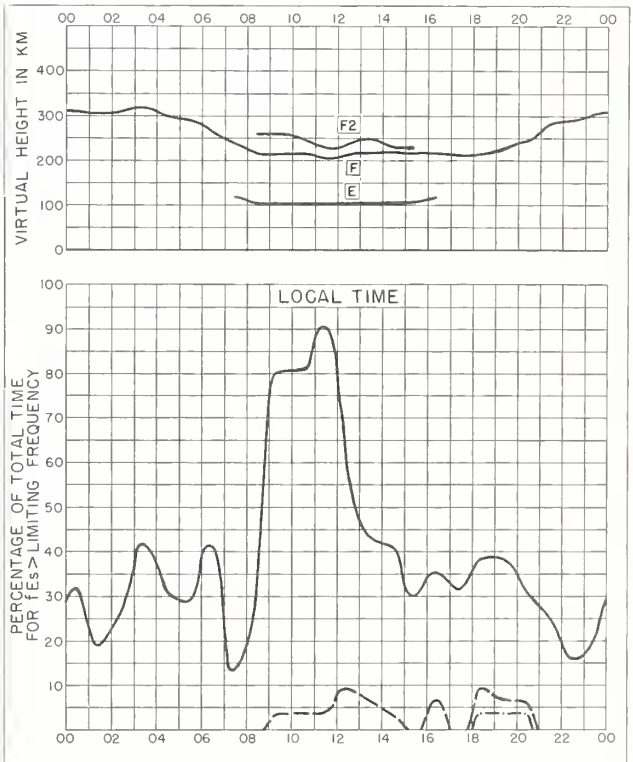


Fig. 24. De BILT, HOLLAND OCTOBER 1960

NBS 490

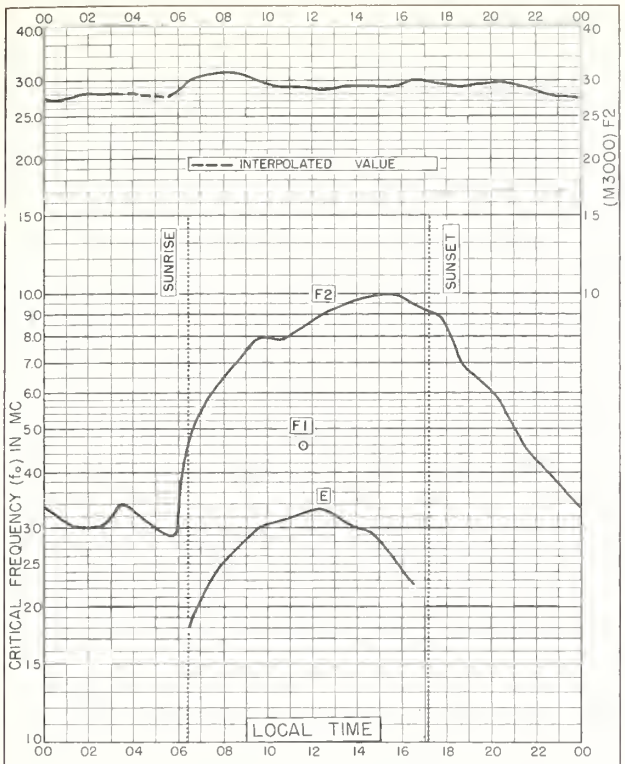


Fig. 25. WINNIPEG, CANADA
49.9°N, 97.4°W OCTOBER 1960

NBS 503

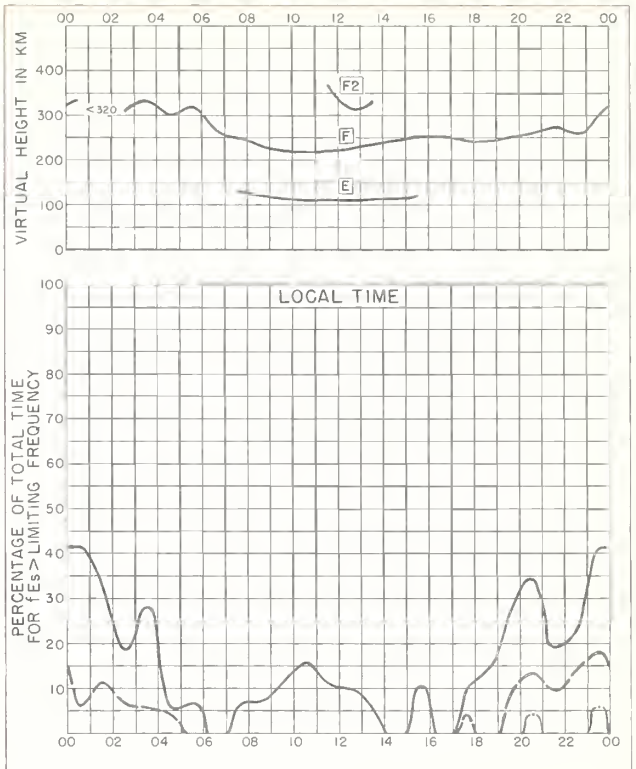


Fig. 26. WINNIPEG, CANADA OCTOBER 1960

NBS 490

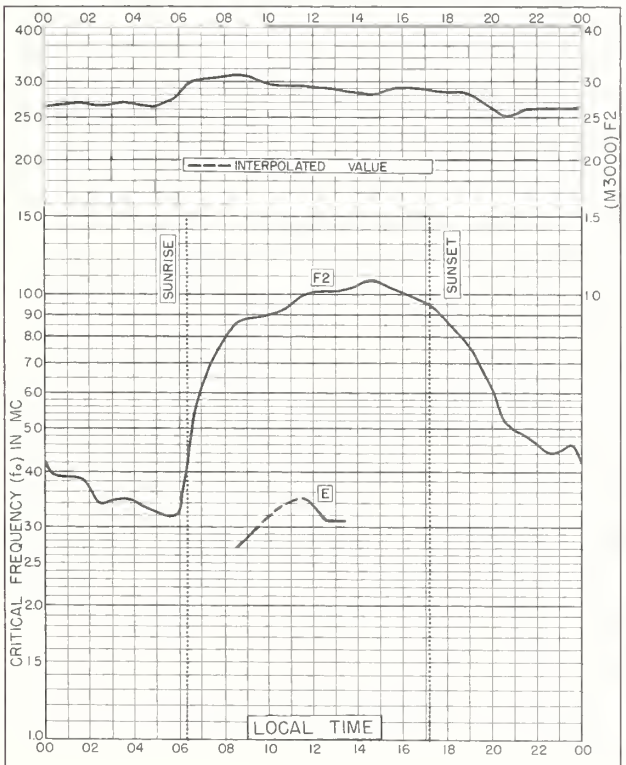


Fig. 27. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W OCTOBER 1960

NBS 503

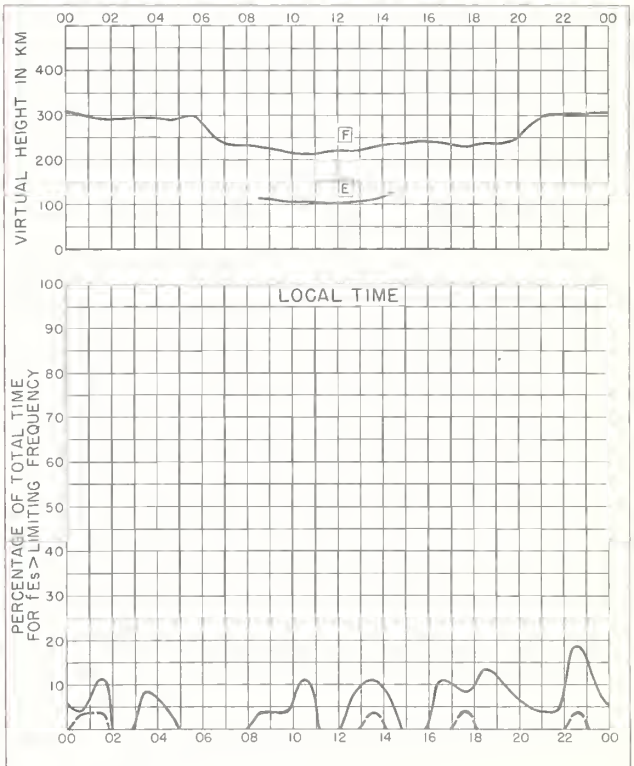


Fig. 28. ST. JOHN'S, NEWFOUNDLAND OCTOBER 1960

NBS 490

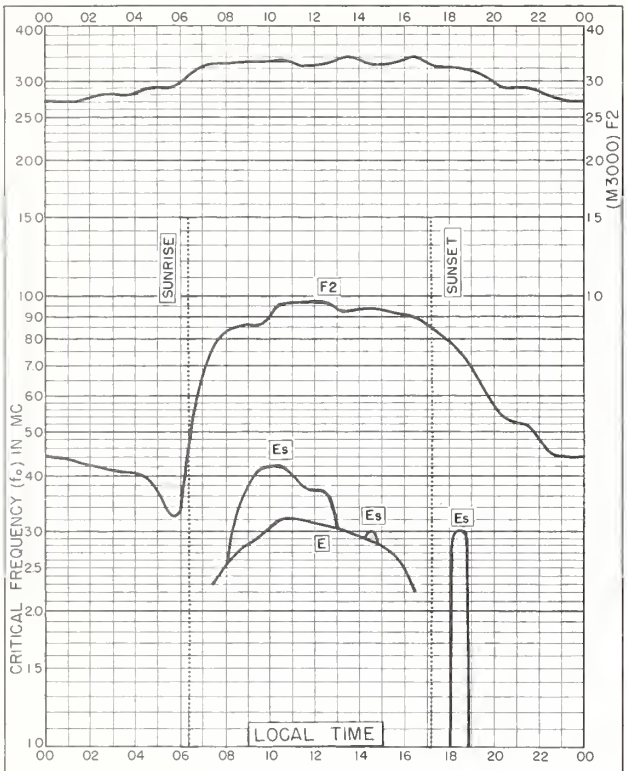
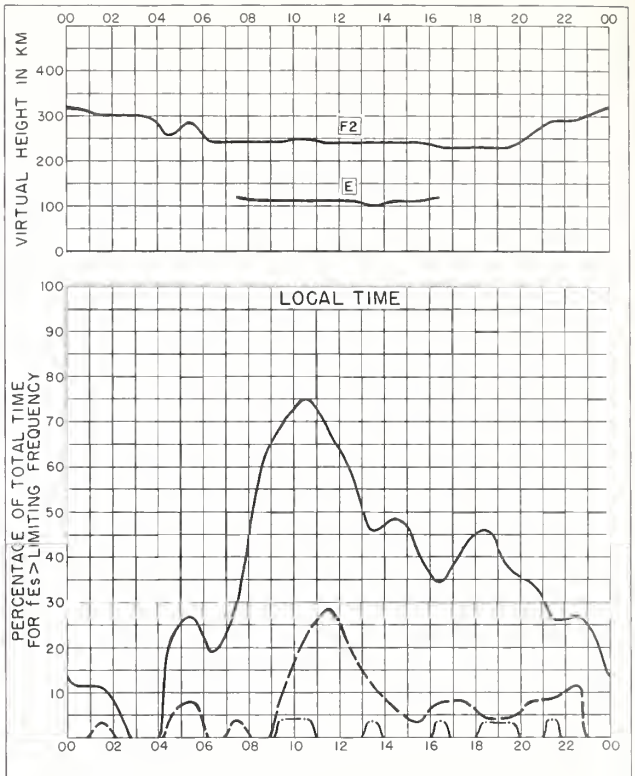


Fig. 29. SOTTENS, SWITZERLAND
46.6°N, 6.7°E OCTOBER 1960

NBS 503



OCTOBER 1960

Fig. 30. SOTTENS, SWITZERLAND

NBS 490

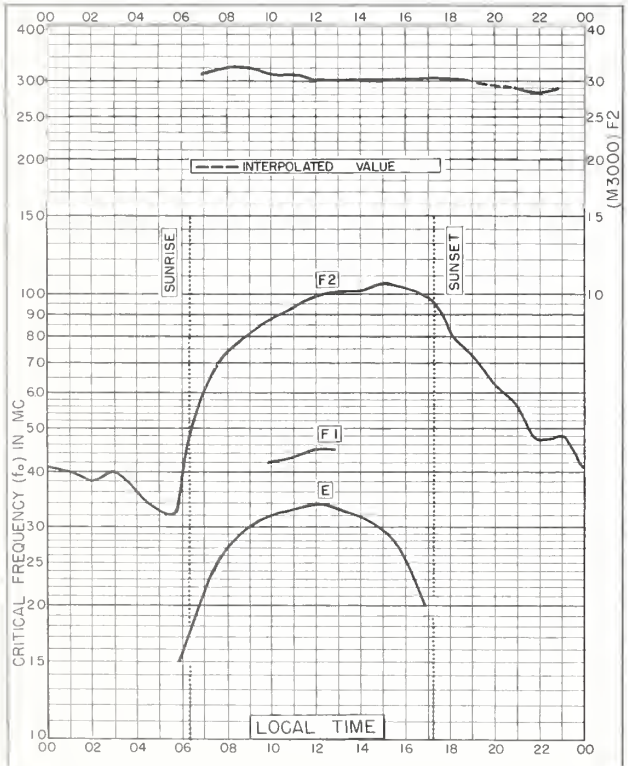


Fig. 31. OTTAWA, CANADA
45.4°N, 75.9°W OCTOBER 1960

NBS 503

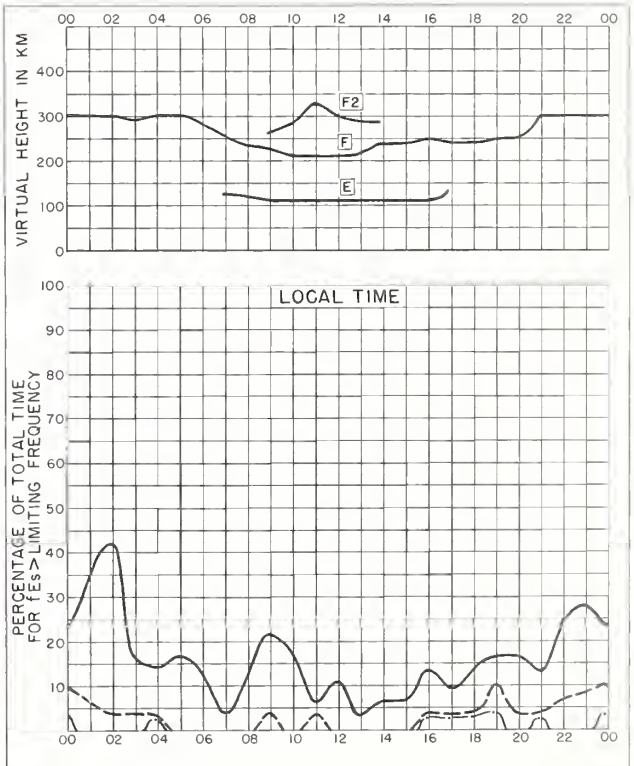


Fig. 32. OTTAWA, CANADA OCTOBER 1960

NBS 490

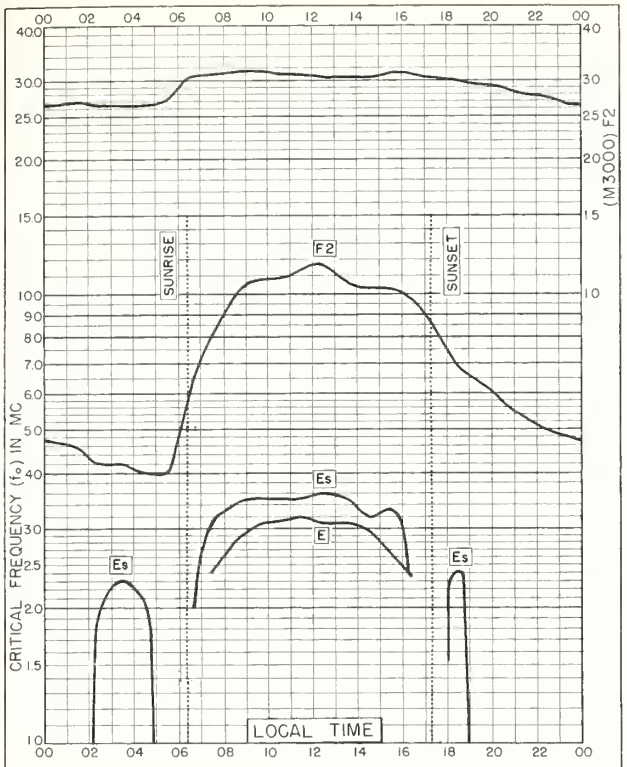


Fig. 33. WAKKANAI, JAPAN
45.4°N, 141.7°E OCTOBER 1960

NBS 503

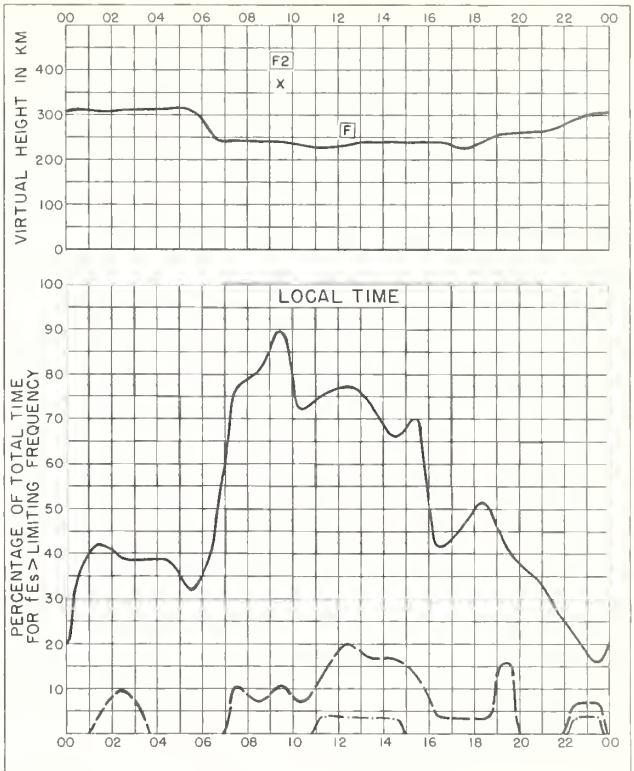


Fig. 34. WAKKANAI, JAPAN OCTOBER 1960

NBS 490

Fig. 35. ROME, ITALY
41.8°N, 12.5°E OCTOBER 1960

NBS 503

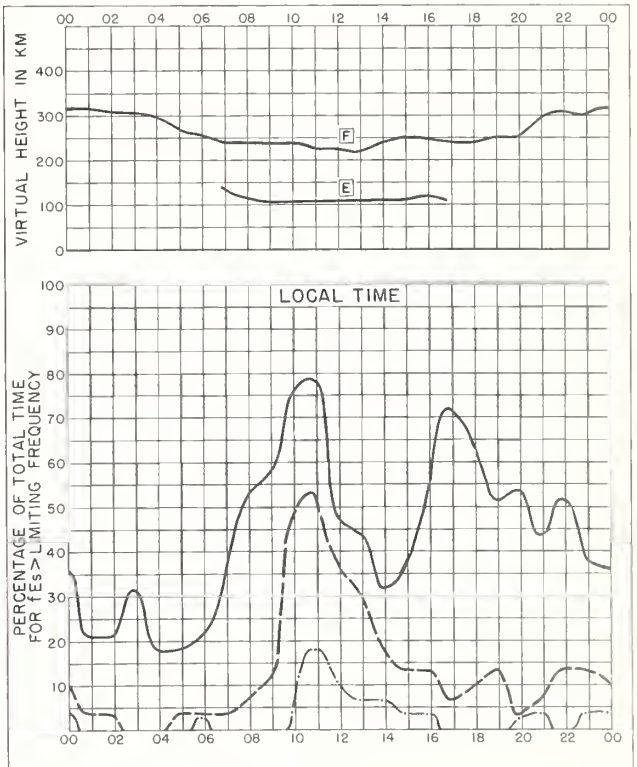


Fig. 36. ROME, ITALY OCTOBER 1960

NBS 490

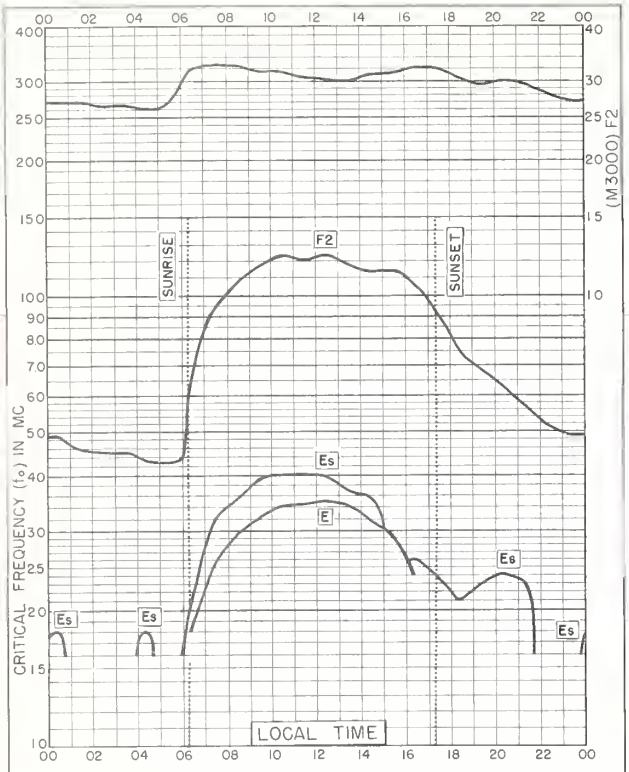


Fig. 37. AKITA, JAPAN
39.7°N, 140.1°E OCTOBER 1960

NBS 503

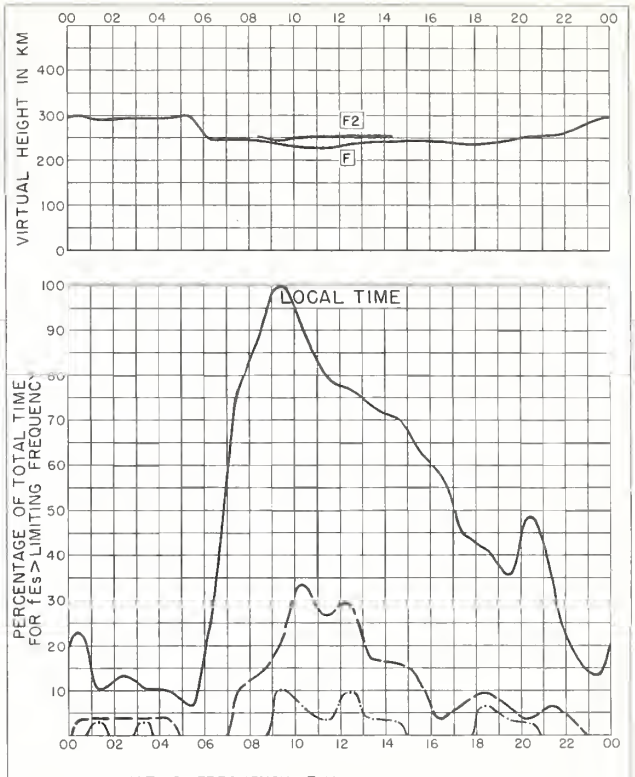


Fig. 38. AKITA, JAPAN OCTOBER 1960

NBS 490

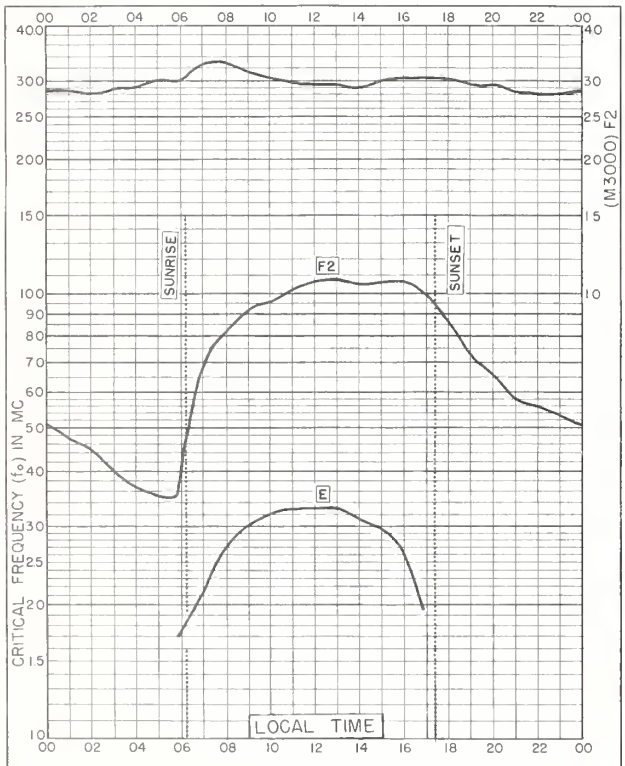


Fig. 39. WASHINGTON, D. C.
38.7°N, 77.1°W OCTOBER 1960

NBS 503

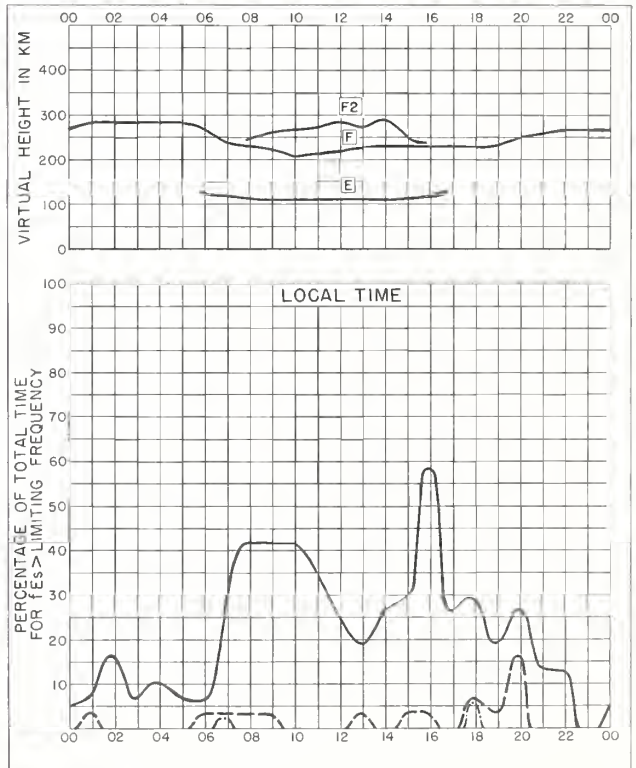


Fig. 40. WASHINGTON, D. C. OCTOBER 1960

NBS 490

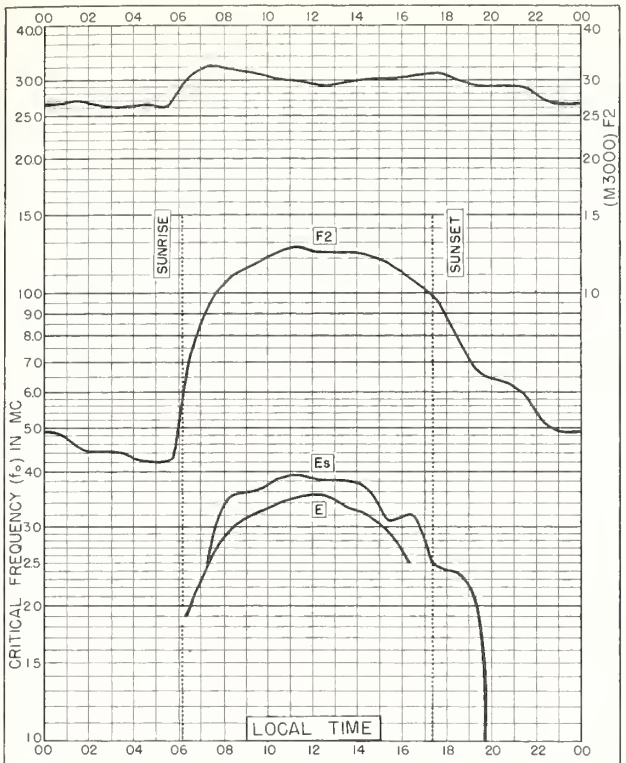


Fig. 41. TOKYO, JAPAN
35.7°N, 139.5°E OCTOBER 1960

NBS 503

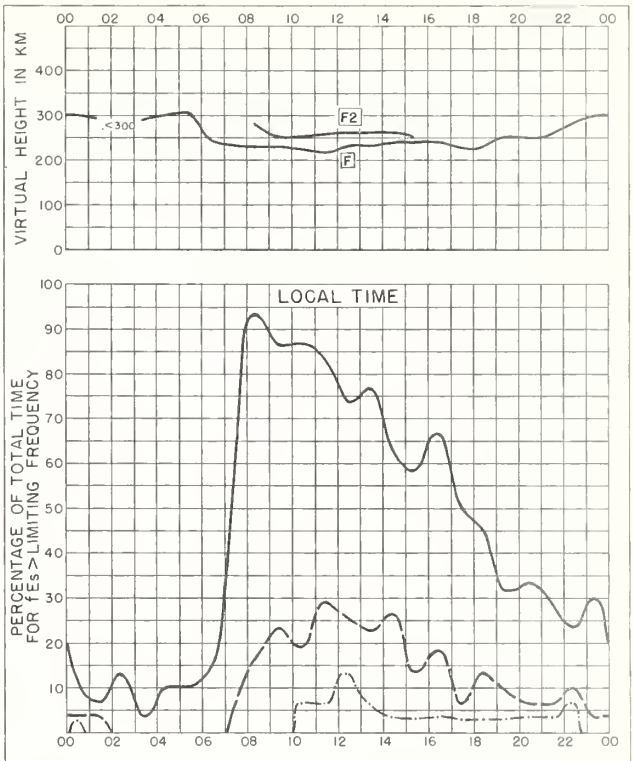


Fig. 42. TOKYO, JAPAN OCTOBER 1960

NBS 490

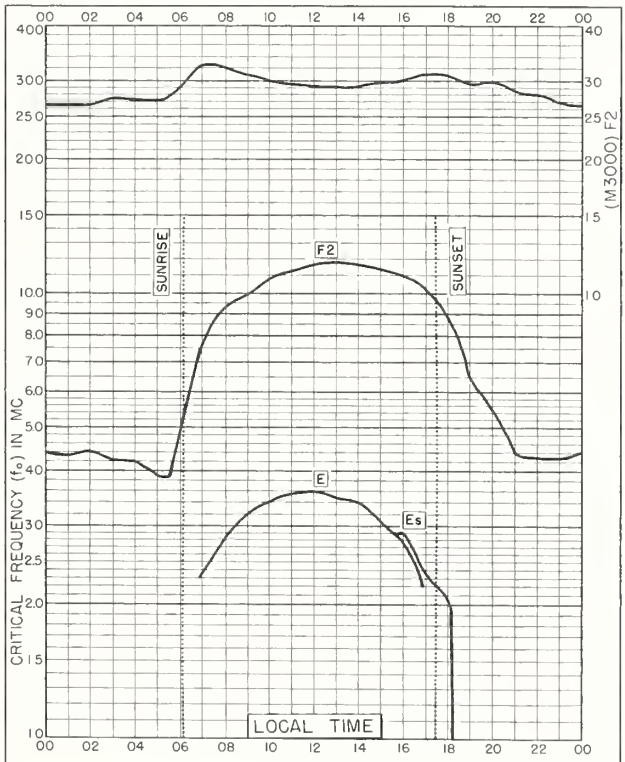


Fig. 43. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W OCTOBER 1960

NBS 503

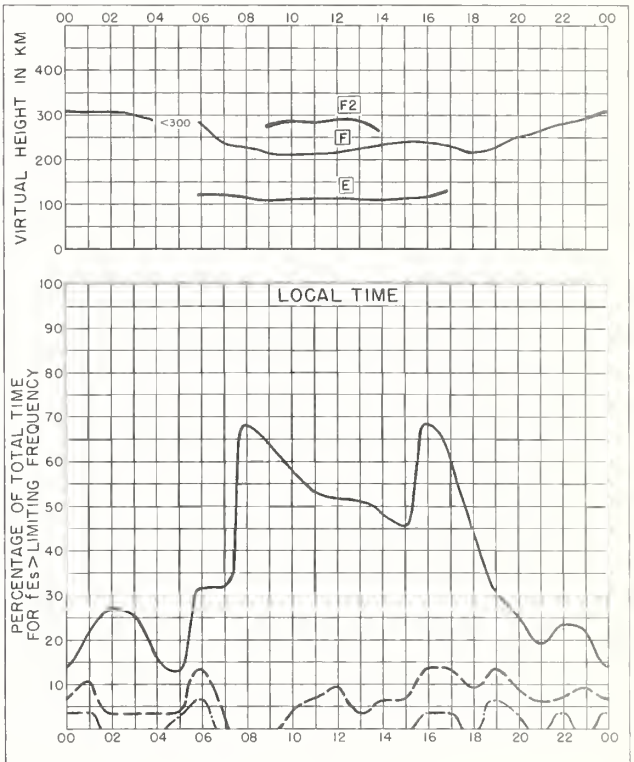


Fig. 44. WHITE SANDS, NEW MEXICO OCTOBER 1960

NBS 490

Fig. 45. YAMAGAWA, JAPAN
31.2°N, 130.6°E OCTOBER 1960

NBS 503

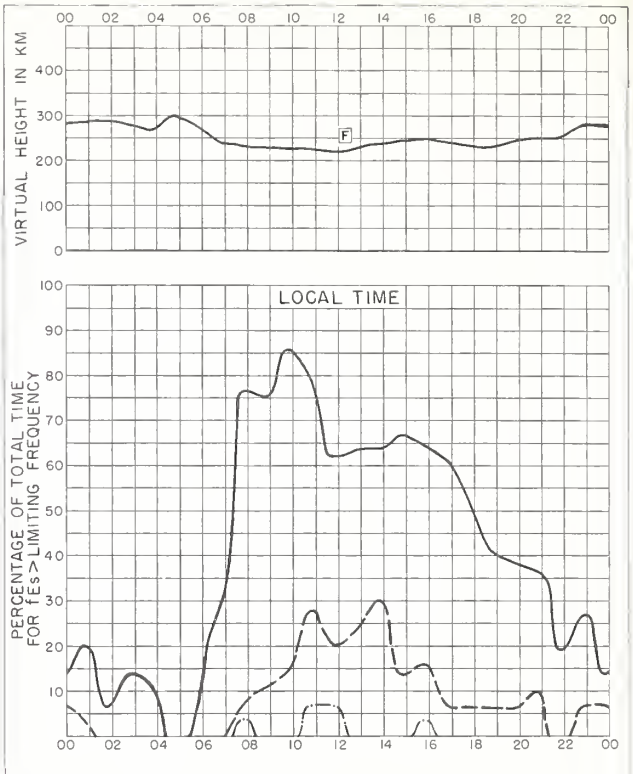


Fig. 46. YAMAGAWA, JAPAN OCTOBER 1960

NBS 490

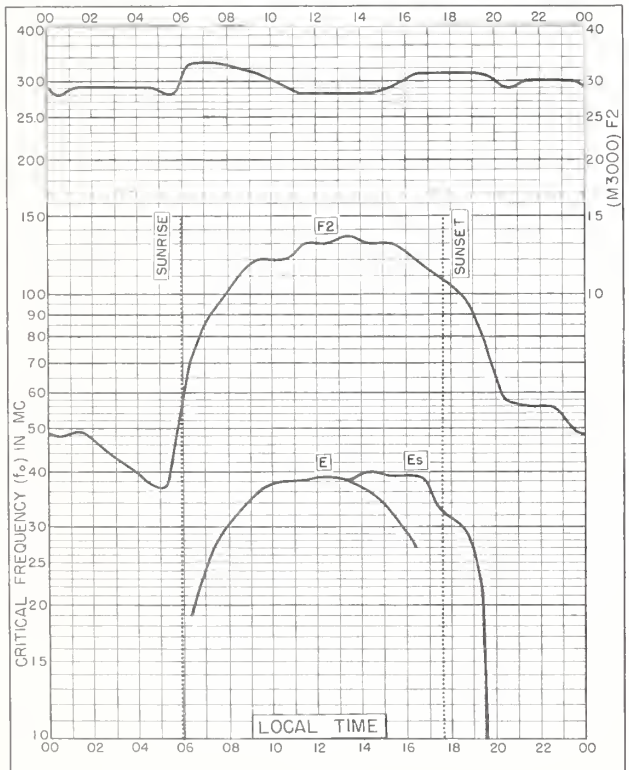


Fig. 47. EL CERILLO, MEXICO
19.3°N, 99.5°W OCTOBER 1960

NBS 503

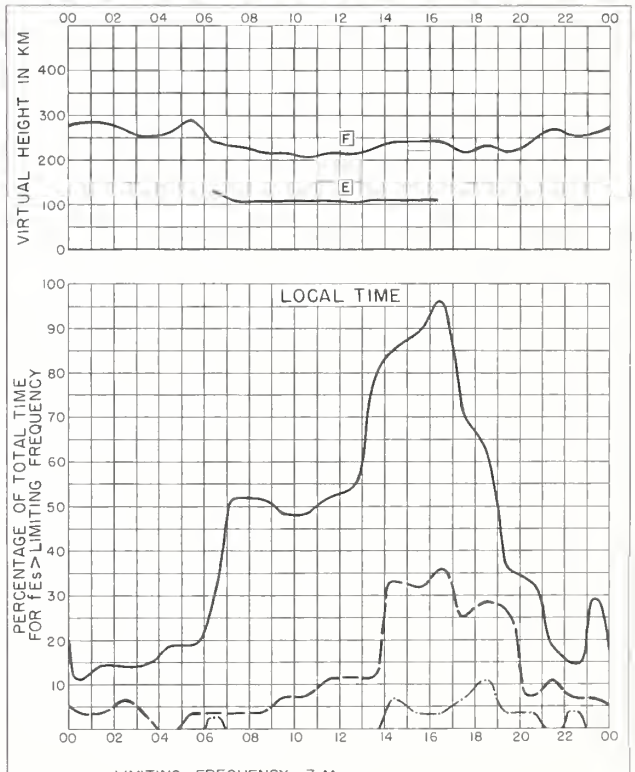


Fig. 48. EL CERILLO, MEXICO OCTOBER 1960

NBS 490

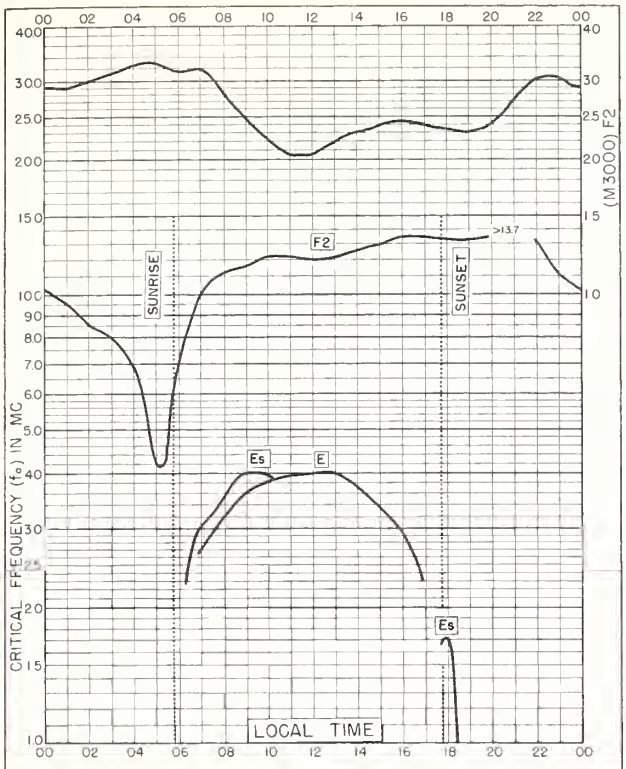
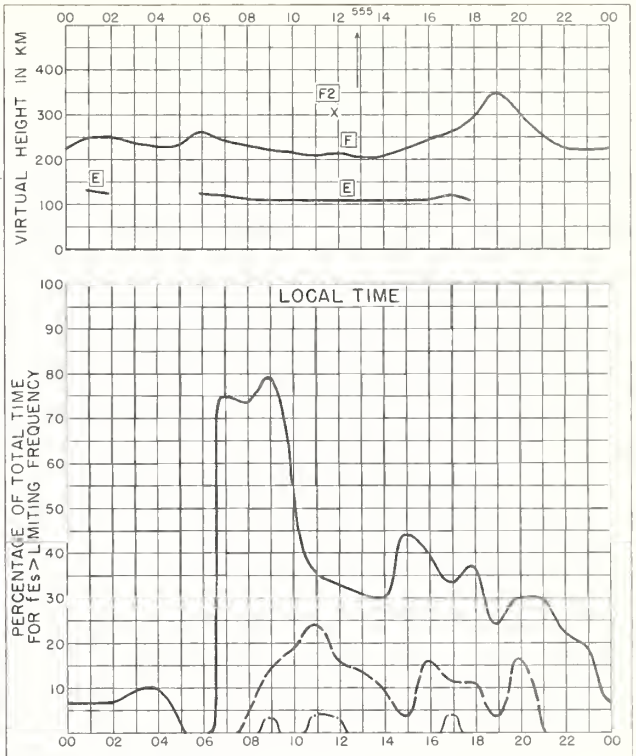


Fig. 49. SINGAPORE, BRITISH MALAYA
1.3°N, 103.8°E OCTOBER 1960



OCTOBER 1960

Fig. 50. SINGAPORE, BRITISH MALAYA

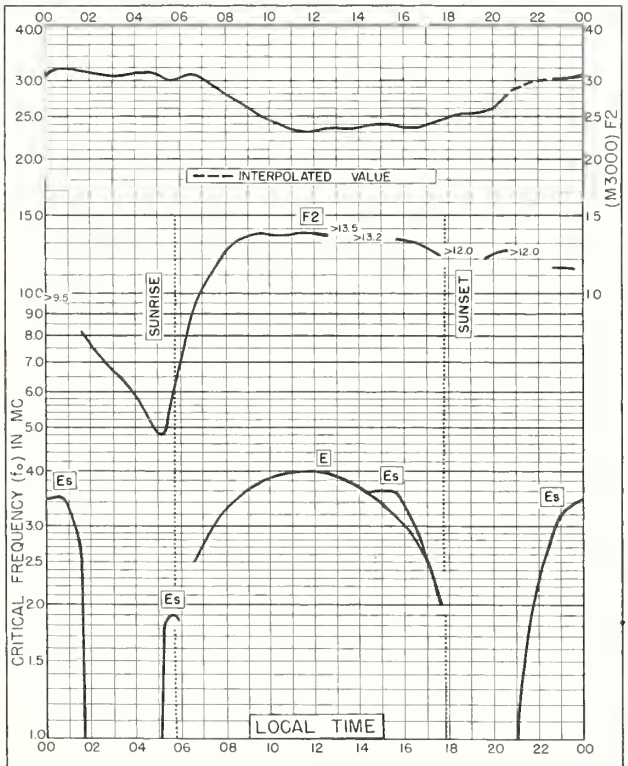
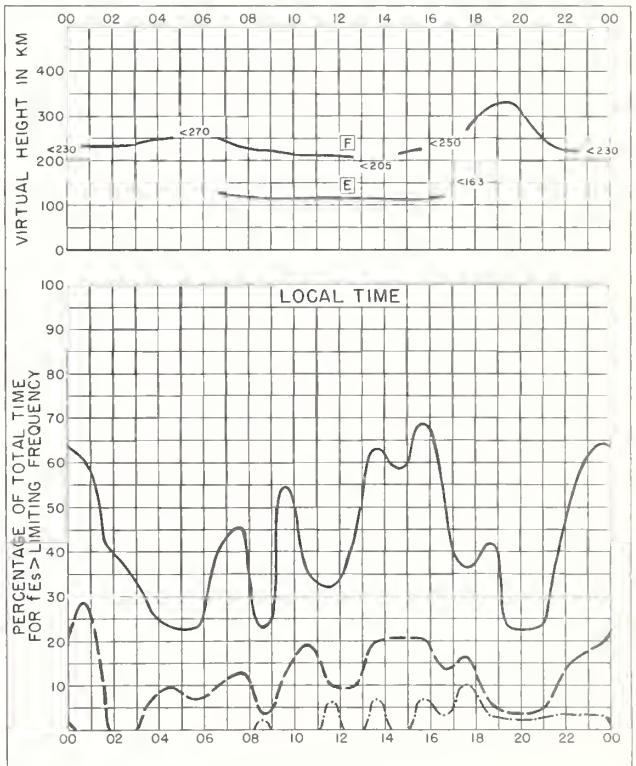


Fig. 51. TALARA, PERU
4.6°S, 81.3°W OCTOBER 1960



OCTOBER 1960

Fig. 52. TALARA, PERU

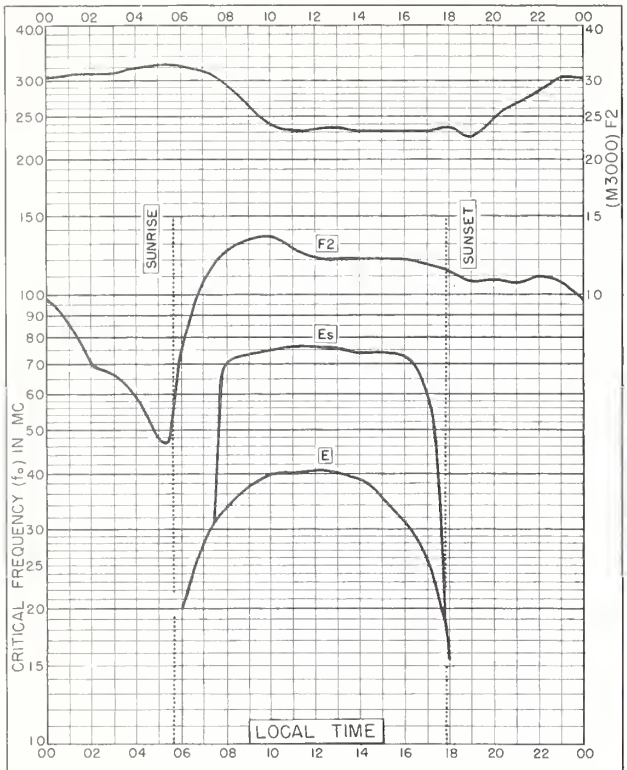


Fig. 53. HUANCAYO, PERU
12.0°S, 75.3°W OCTOBER 1960

NBS 503

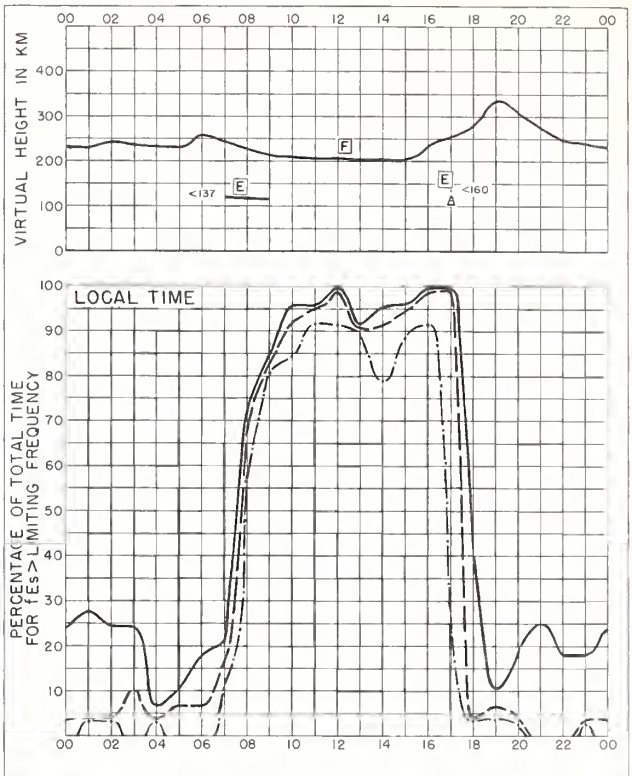


Fig. 54. HUANCAYO, PERU OCTOBER 1960

NBS 490

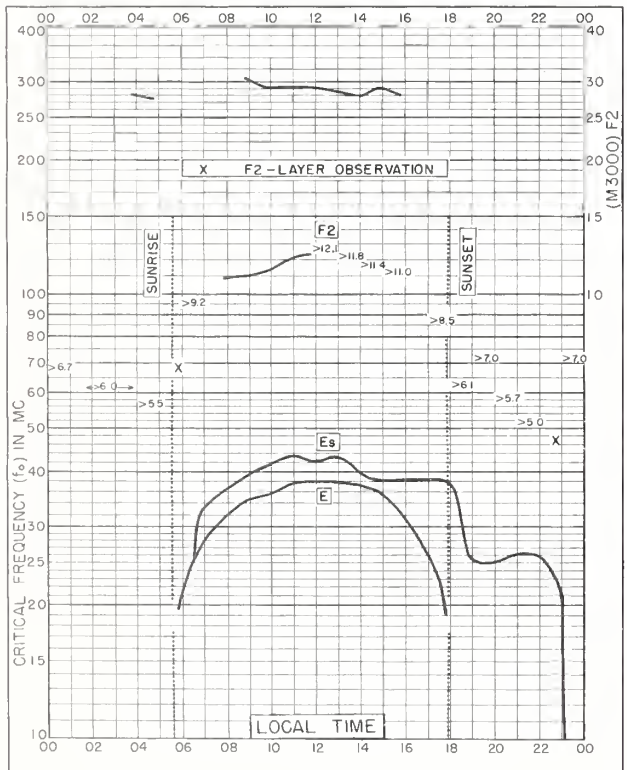


Fig. 55. TOWNSVILLE, AUSTRALIA
19.3°S, 146.7°E OCTOBER 1960

NBS 503

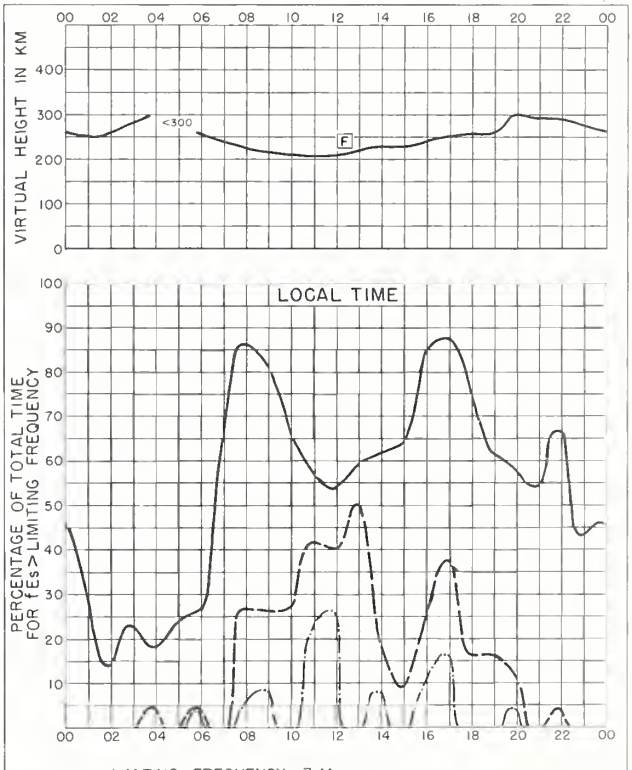


Fig. 56. TOWNSVILLE, AUSTRALIA OCTOBER 1960

NBS 490

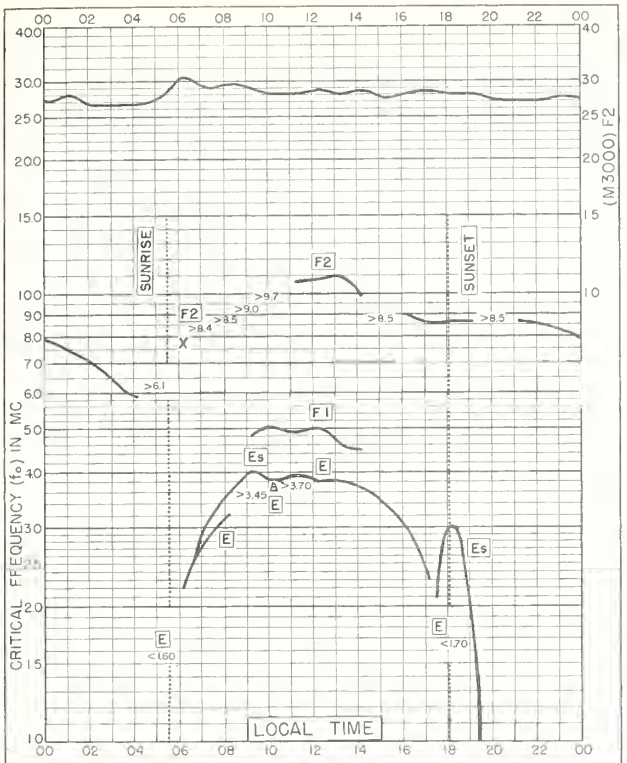


Fig. 57. BRISBANE, AUSTRALIA
27.5°S, 152.9°E OCTOBER 1960

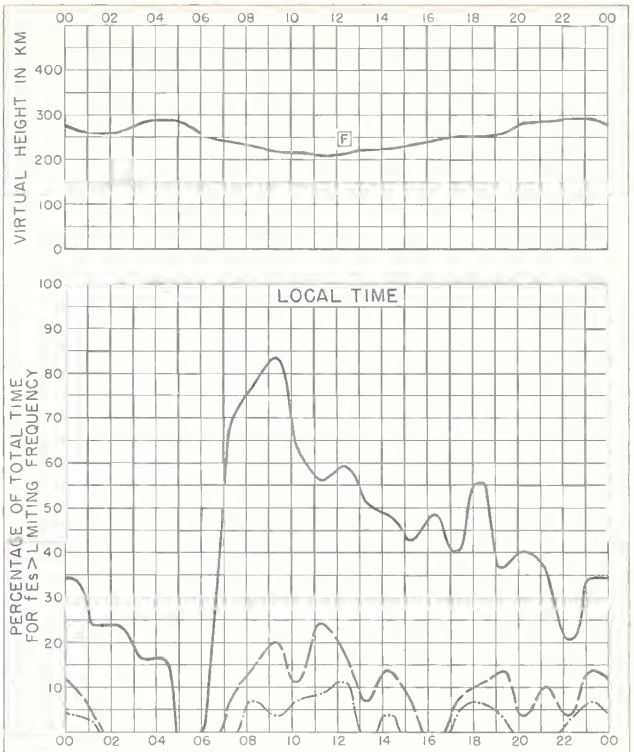


Fig. 58. BRISBANE, AUSTRALIA OCTOBER 1960

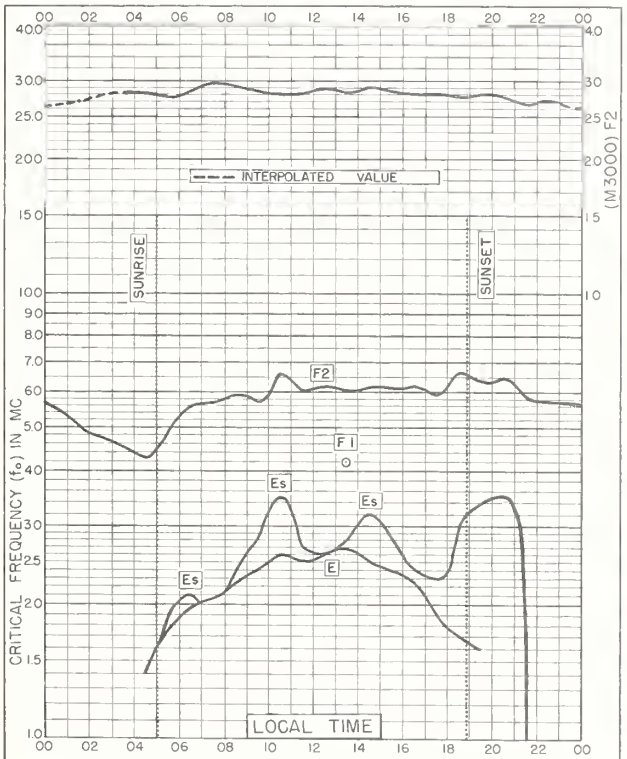


Fig. 59. THULE, GREENLAND
76.0°N, 68.0°W SEPTEMBER 1960

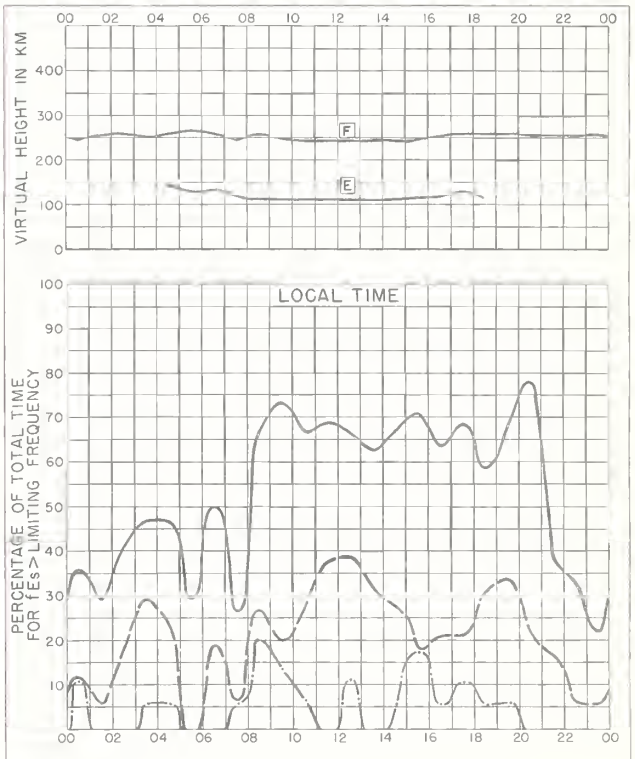


Fig. 60. THULE, GREENLAND SEPTEMBER 1960

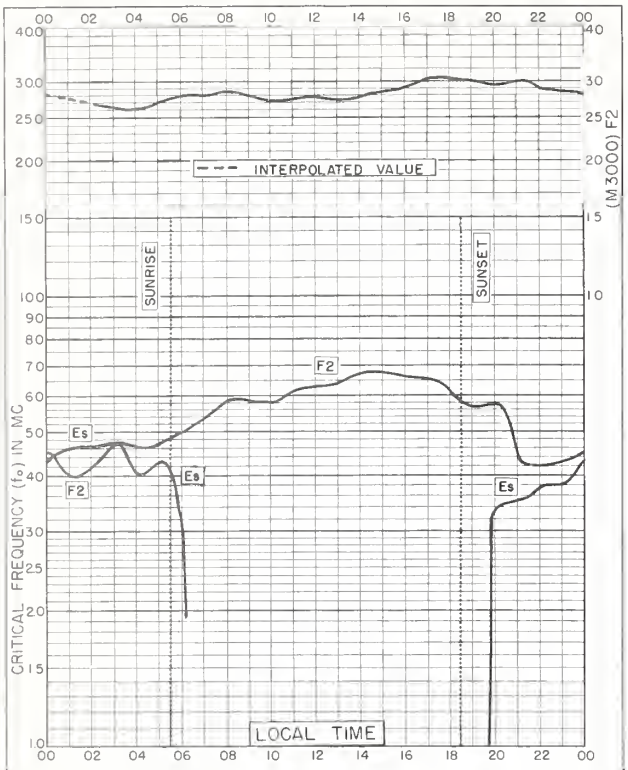


Fig. 61. FAIRBANKS, ALASKA
64.9°N, 147.8°W SEPTEMBER 1960

NBS 503

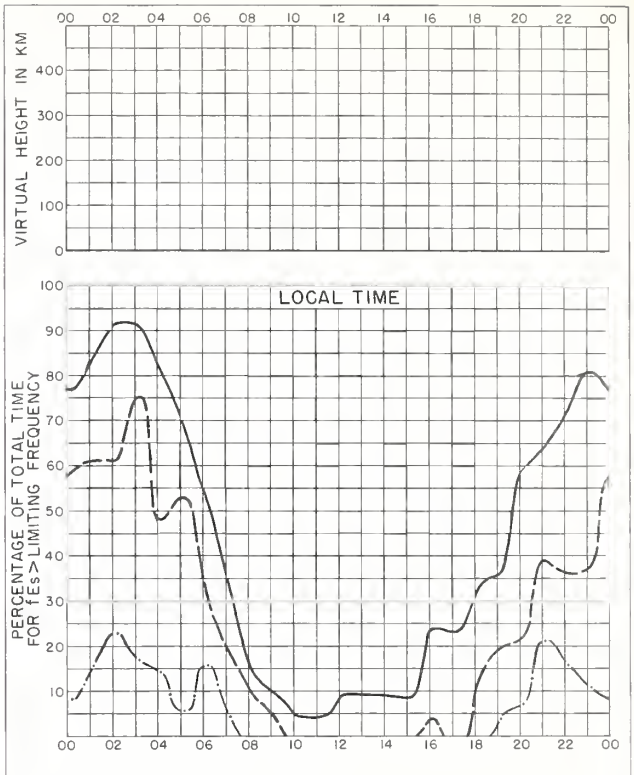


Fig. 62. FAIRBANKS, ALASKA SEPTEMBER 1960

NBS 490

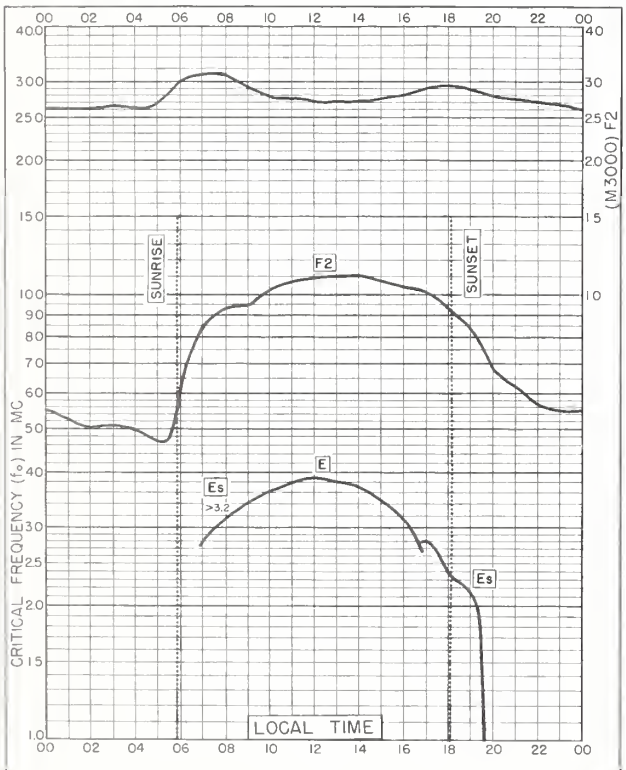


Fig. 63. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W SEPTEMBER 1960

NBS 503

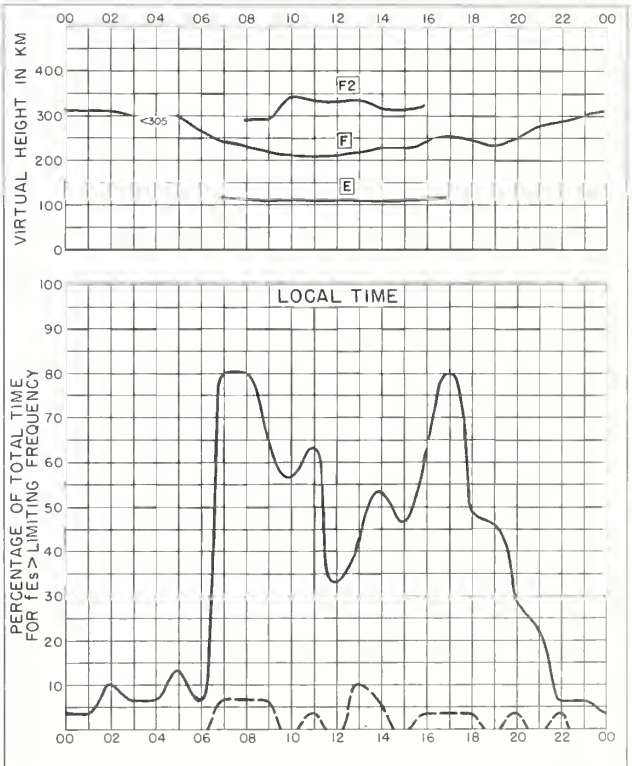


Fig. 64. WHITE SANDS, NEW MEXICO SEPTEMBER 1960

NBS 490

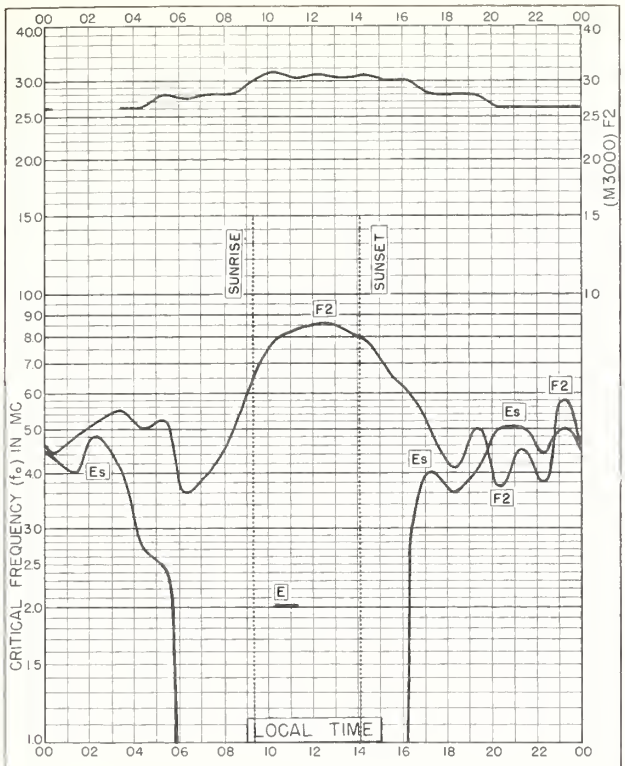


Fig. 65. KIRUNA, SWEDEN
67.8°N, 20.3°E NOVEMBER 1959

NBS 503

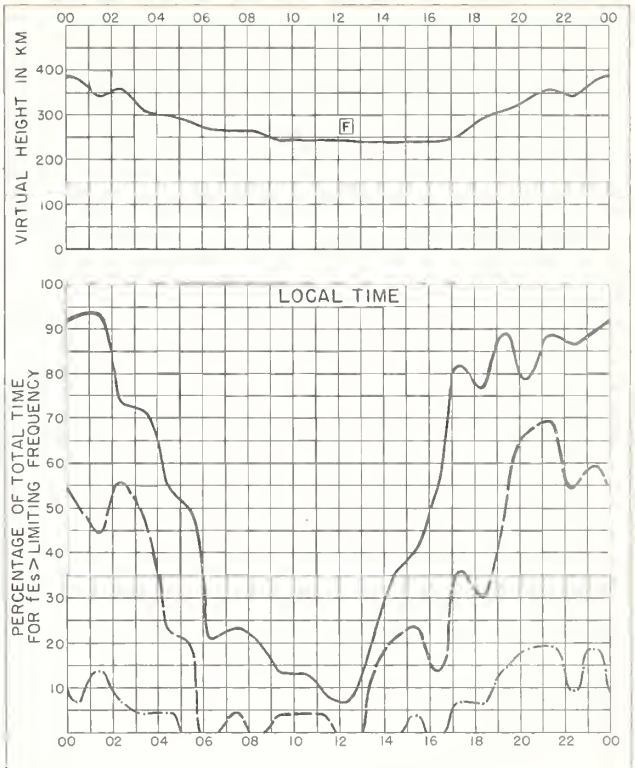


Fig. 66. KIRUNA, SWEDEN NOVEMBER 1959

NBS 490

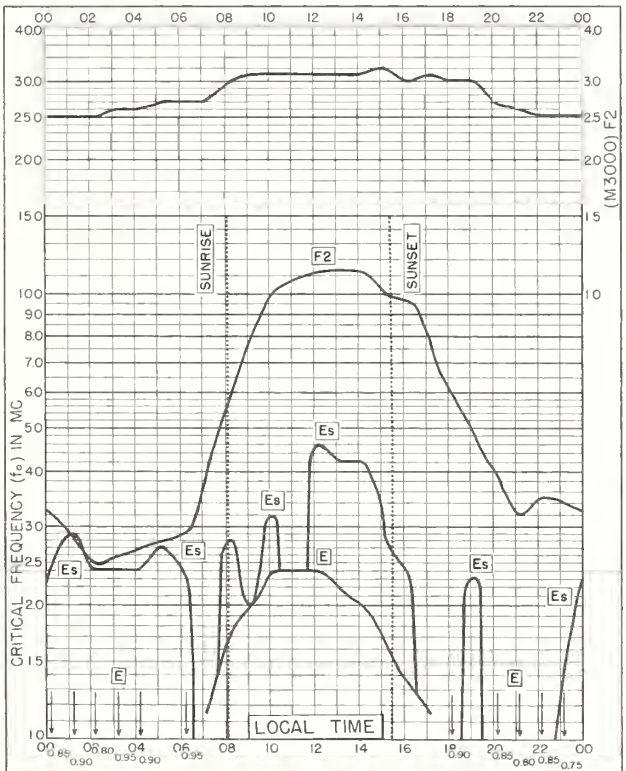


Fig. 67. UPSALA, SWEDEN
59.8°N, 17.6°E NOVEMBER 1959

NBS 503

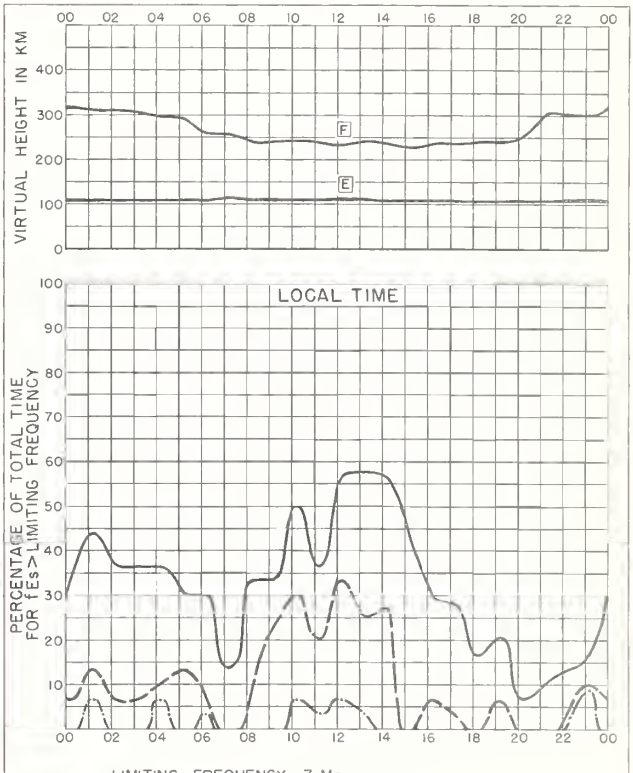


Fig. 68. UPSALA, SWEDEN NOVEMBER 1959

NBS 490

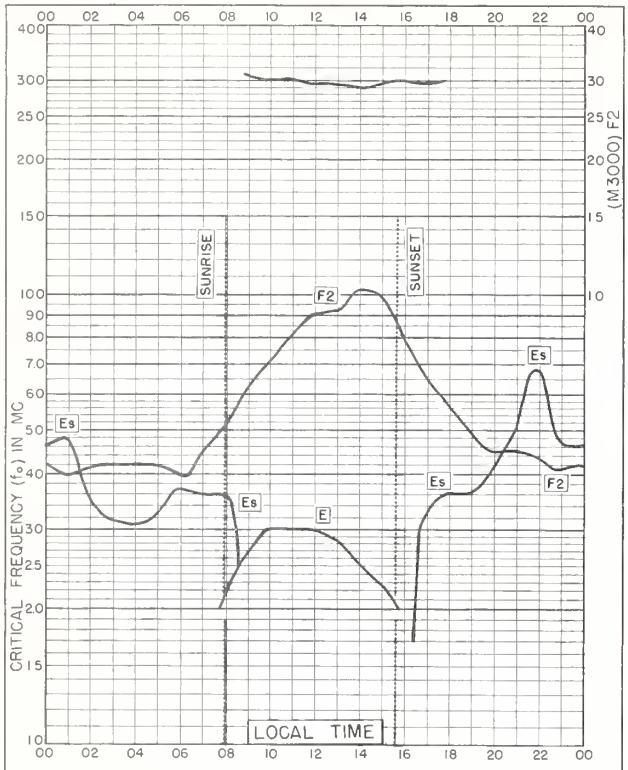


Fig. 69. CHURCHILL, CANADA
58.8°N, 94.2°W NOVEMBER 1959

NBS 503

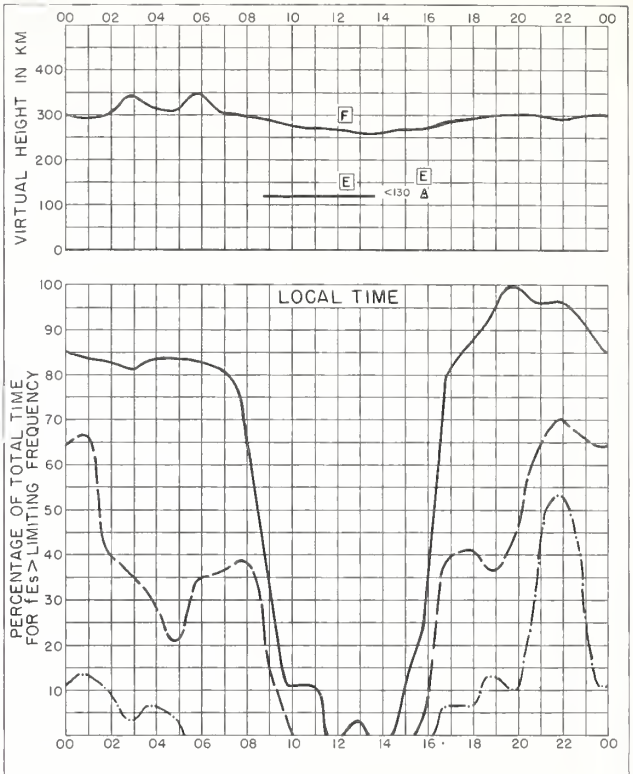


Fig. 70. CHURCHILL, CANADA NOVEMBER 1959

NBS 490

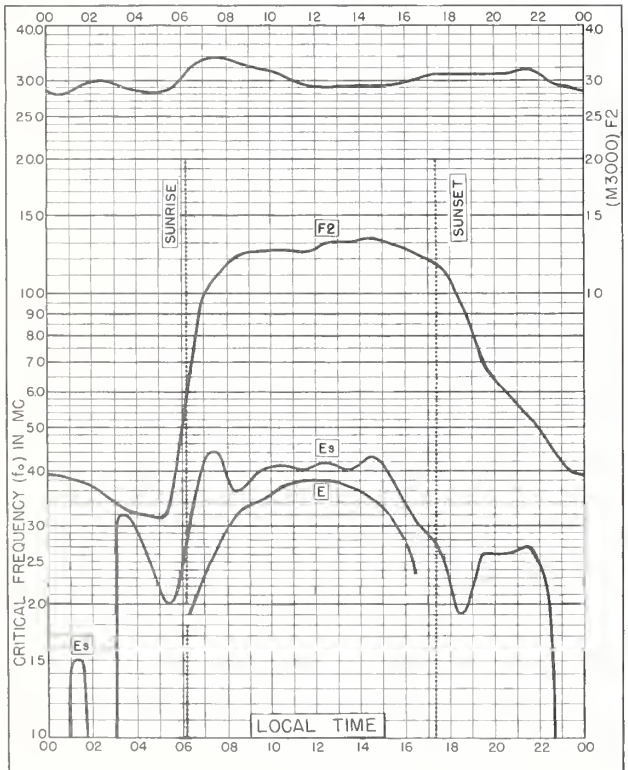


Fig. 71. EL CERILLO, MEXICO
19.3°N, 99.5°W NOVEMBER 1959

NBS 503

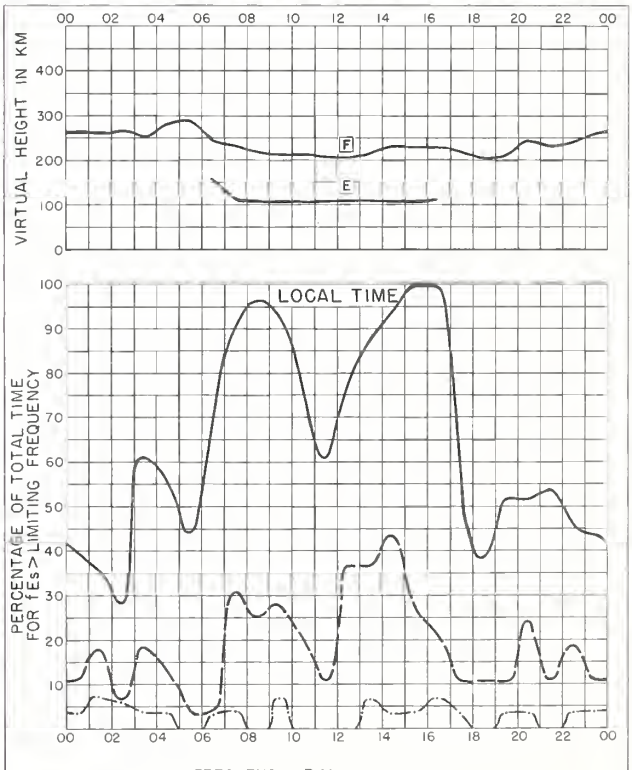


Fig. 72. EL CERILLO, MEXICO NOVEMBER 1959

NBS 490

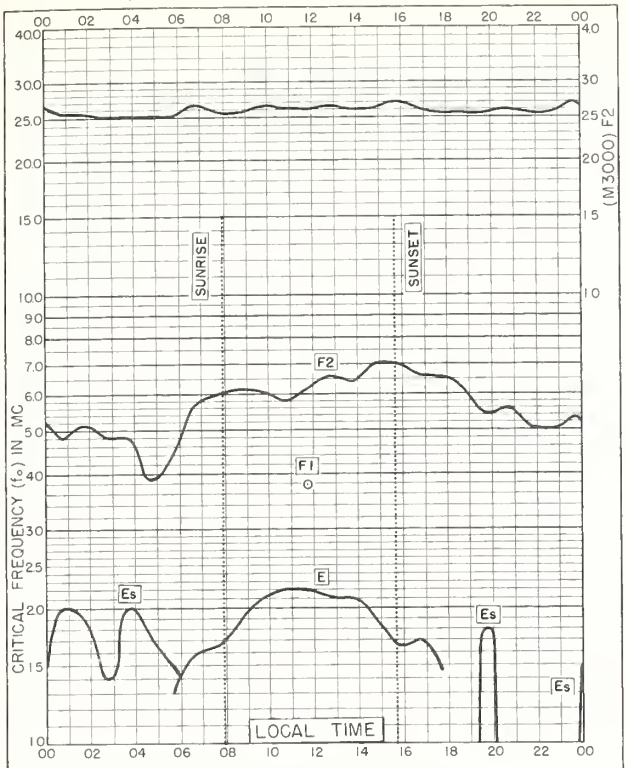
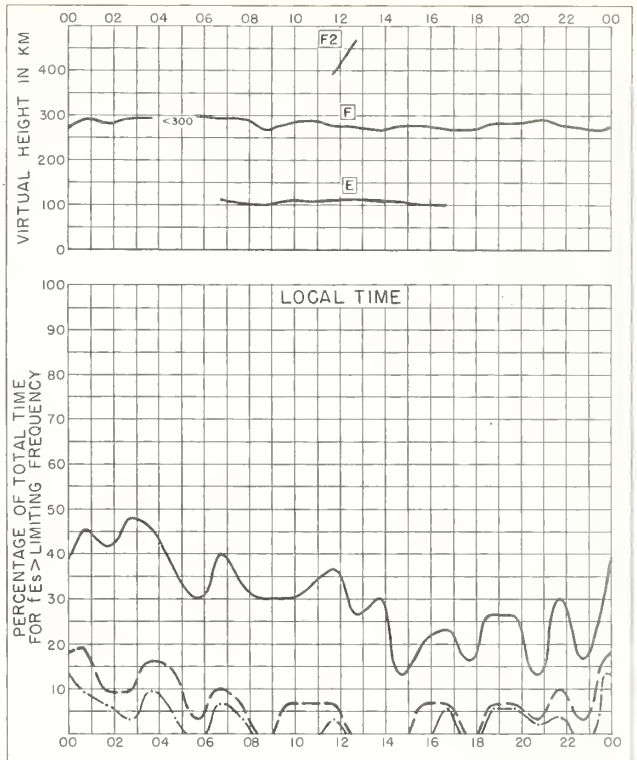


Fig. 73. RESOLUTE BAY, CANADA
74.7°N, 94.9°W OCTOBER 1959

NBS 503



OCTOBER 1959

Fig. 74. RESOLUTE BAY, CANADA

NBS 490

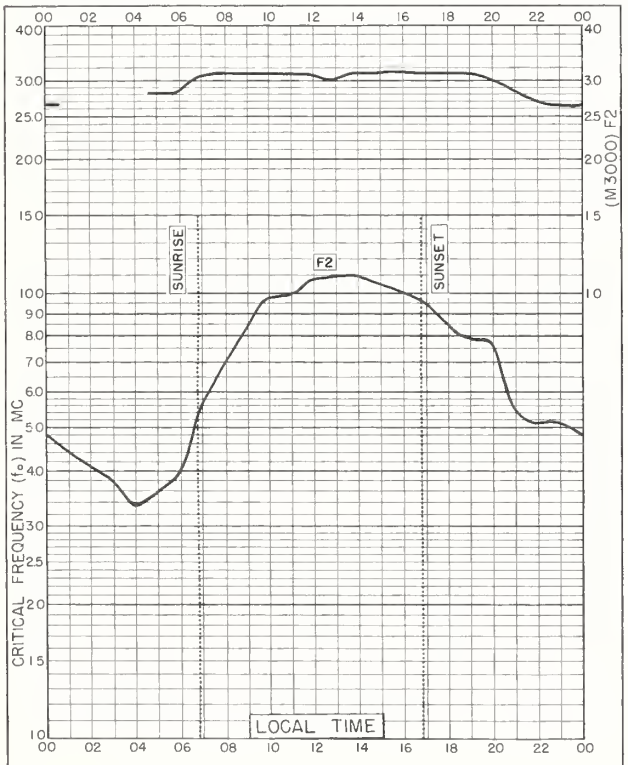


Fig. 75. NURMIJARVI, FINLAND
60.5°N, 24.6°E OCTOBER 1959

NBS 503

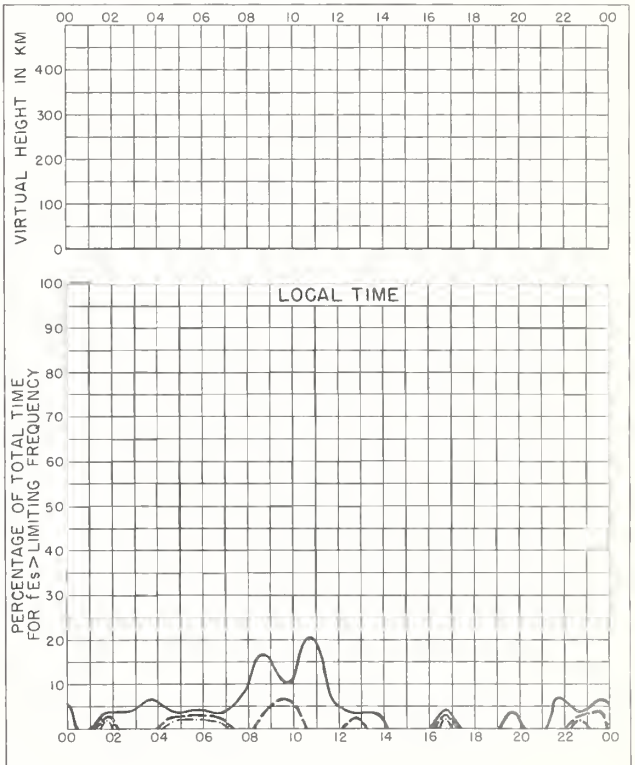


Fig. 76. NURMIJARVI, FINLAND OCTOBER 1959

NBS 490

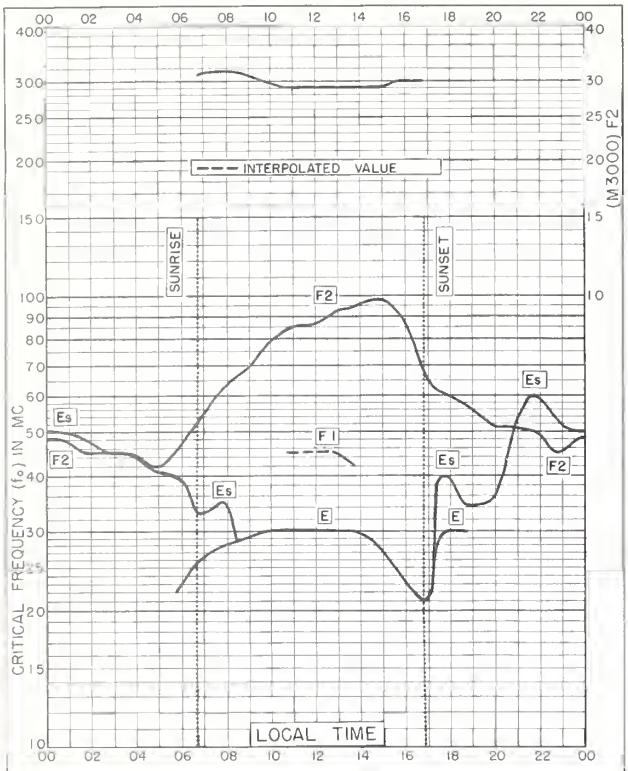


Fig. 77. CHURCHILL, CANADA
58.8°N, 94.2°W OCTOBER 1959

NBS 503

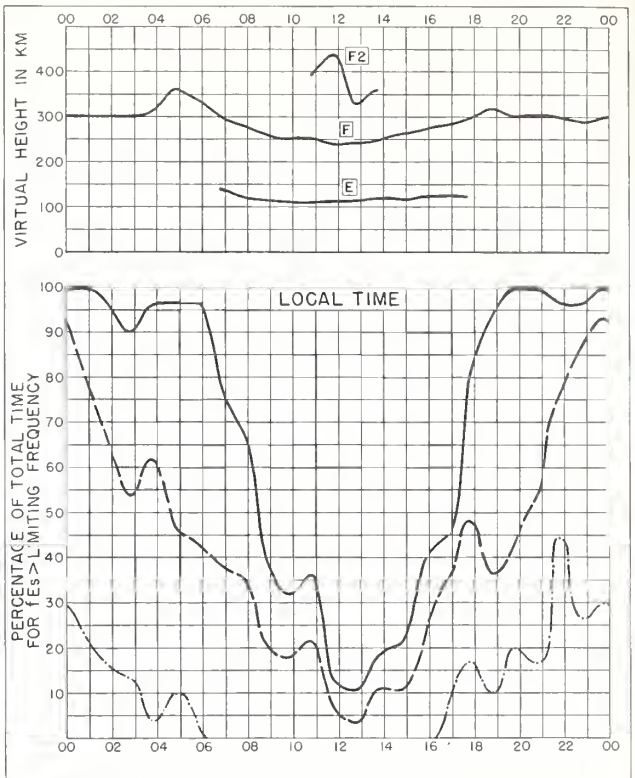


Fig. 78. CHURCHILL, CANADA OCTOBER 1959

NBS 490

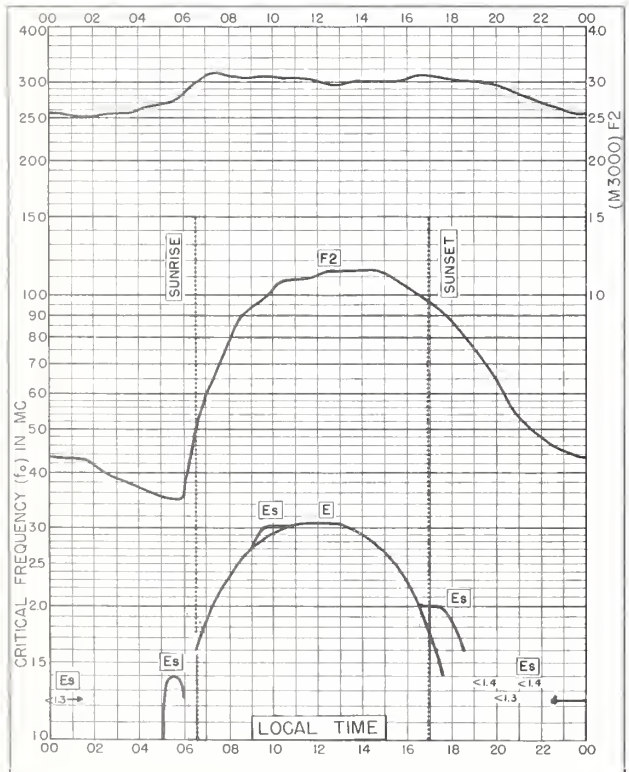


Fig. 79. MOSCOW, U.S.S.R.
55.5°N, 37.3°E OCTOBER 1959

NBS 503

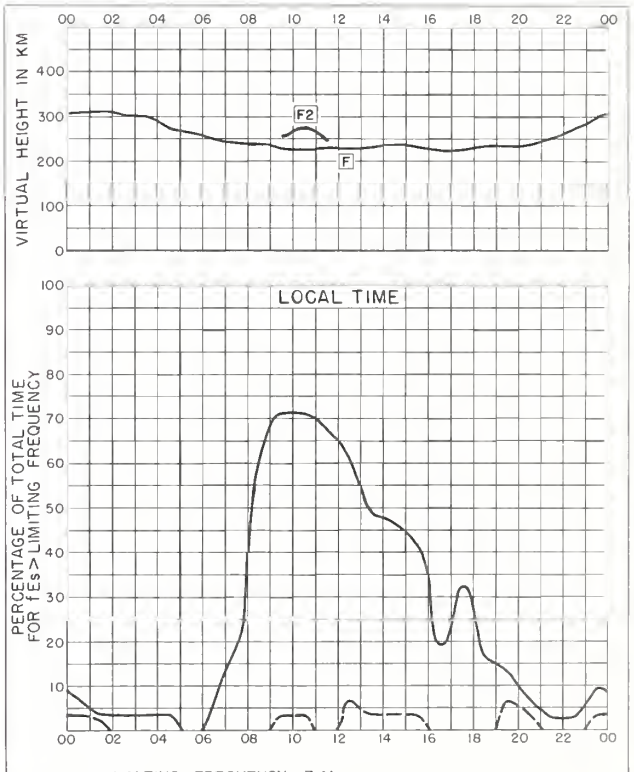


Fig. 80. MOSCOW, U.S.S.R. OCTOBER 1959

NBS 490

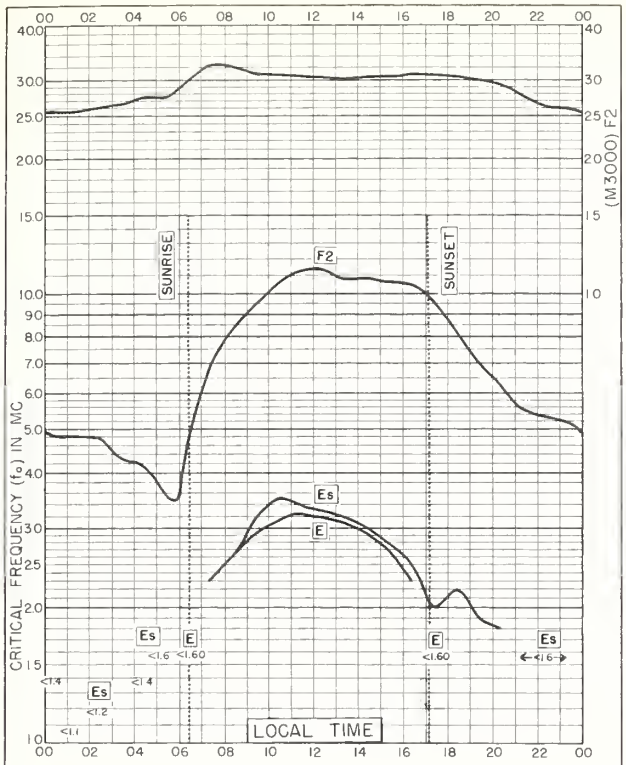


Fig. 81. DOURBES, BELGIUM
50.1°N, 4.6°E OCTOBER 1959

NBS 503

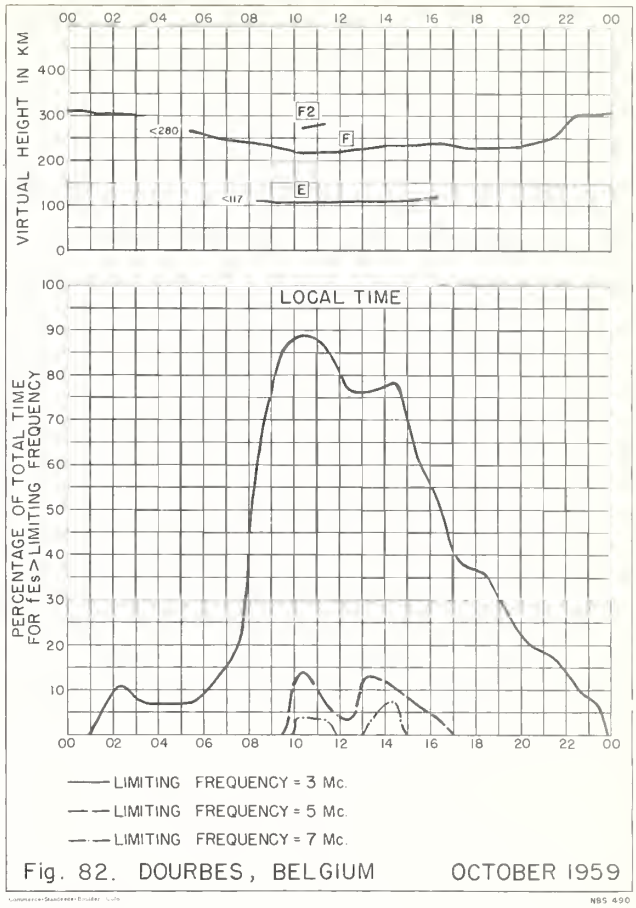


Fig. 82. DOURBES, BELGIUM OCTOBER 1959

NBS 490

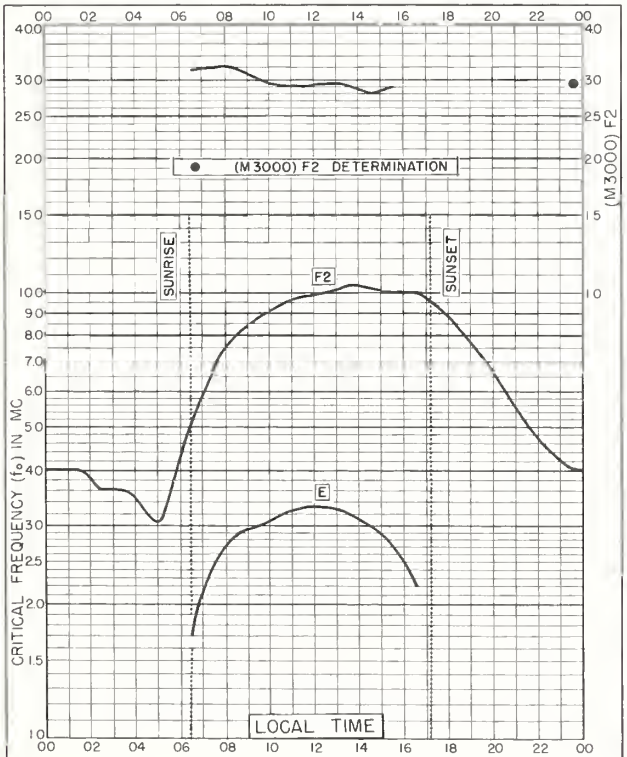


Fig. 83. WINNIPEG, CANADA
49.9°N, 97.4°W OCTOBER 1959

NBS 503

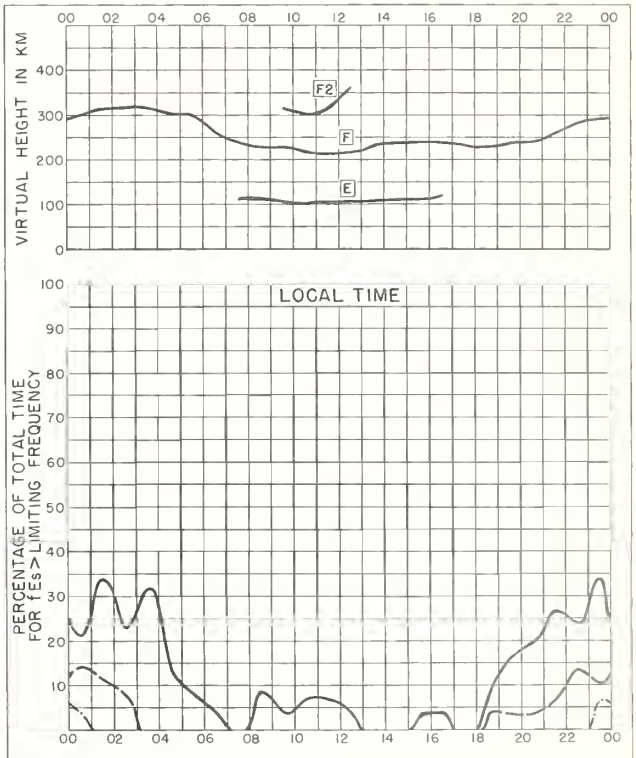


Fig. 84. WINNIPEG, CANADA OCTOBER 1959

NBS 490

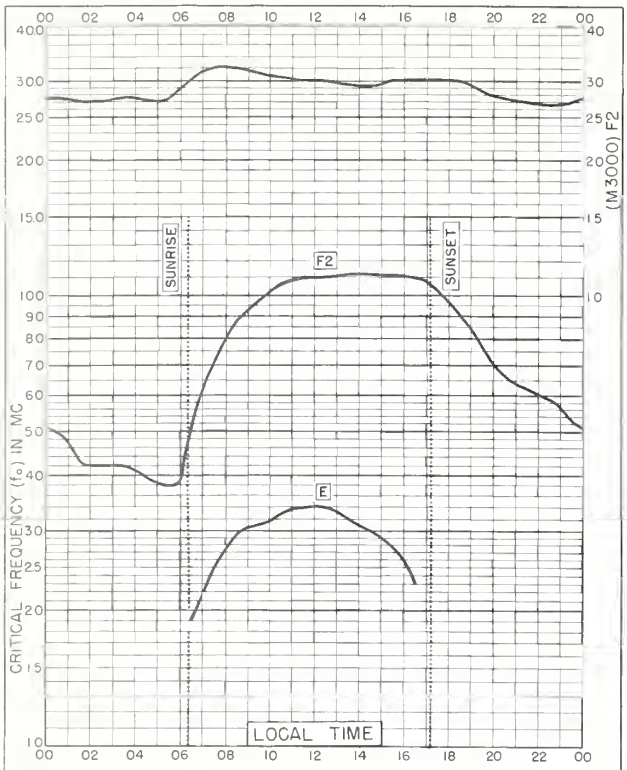
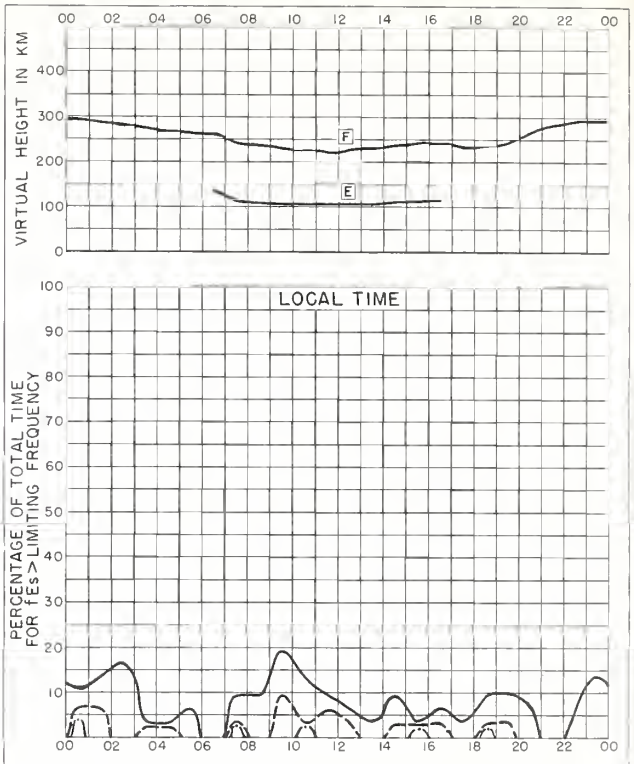


Fig. 85. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W OCTOBER 1959



OCTOBER 1959

Fig. 86. ST. JOHN'S, NEWFOUNDLAND

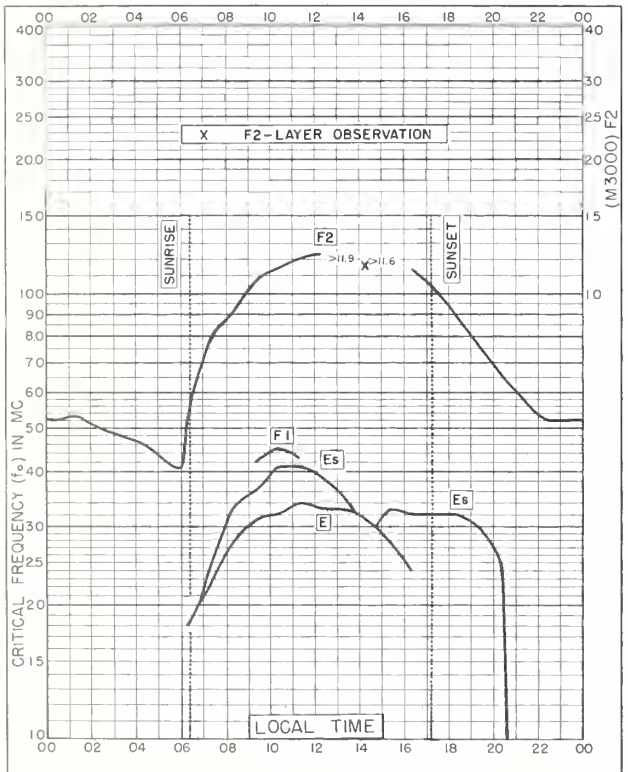


Fig. 87. BUDAPEST, HUNGARY
47.4°N, 19.2°E OCTOBER 1959

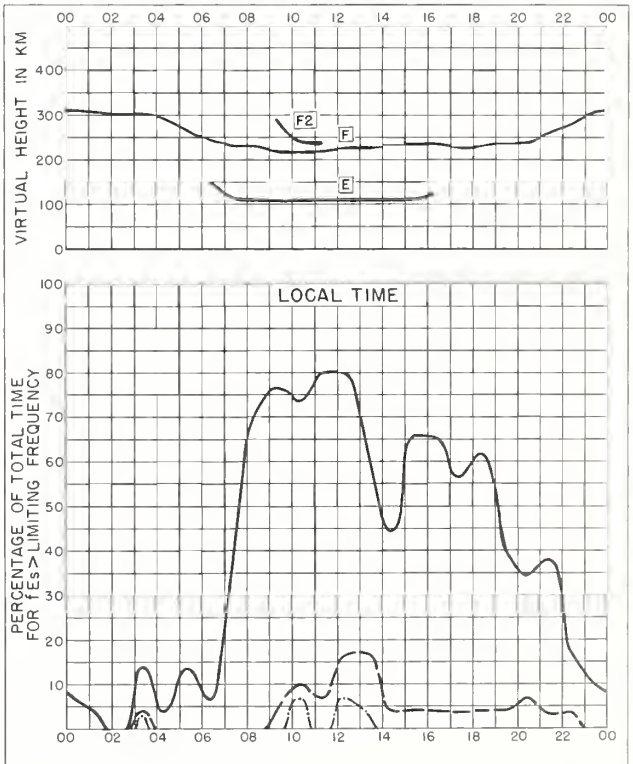


Fig. 88. BUDAPEST, HUNGARY OCTOBER 1959

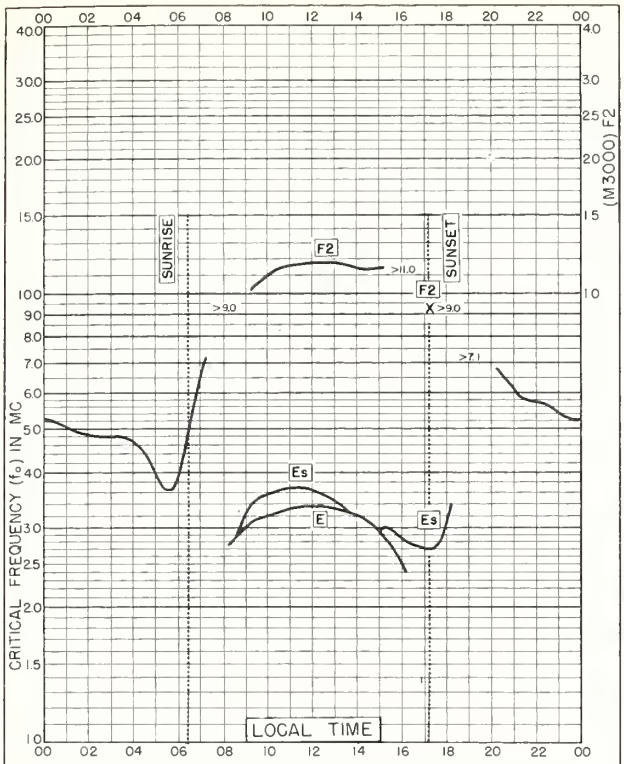


Fig. 89. GARCHY, FRANCE
47.3°N, 3.1°E OCTOBER 1959

NBS 503

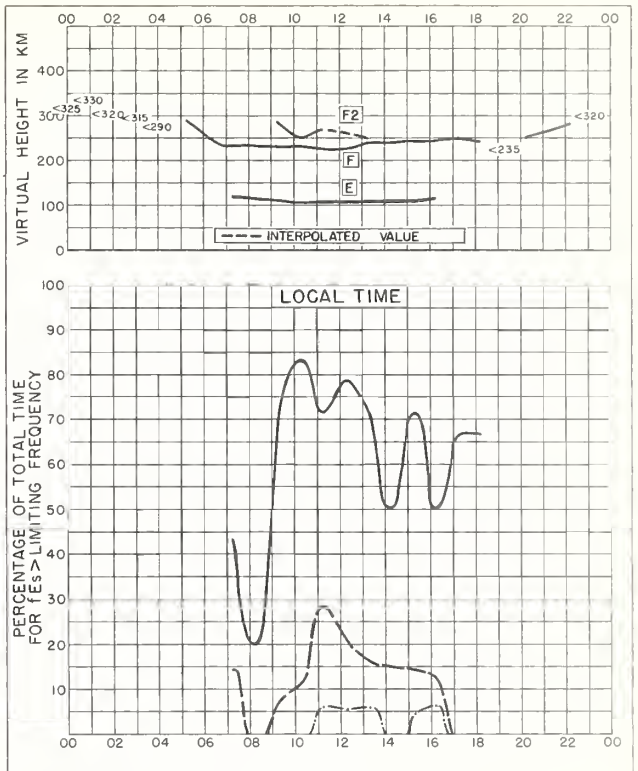


Fig. 90. GARCHY, FRANCE OCTOBER 1959

NBS 490

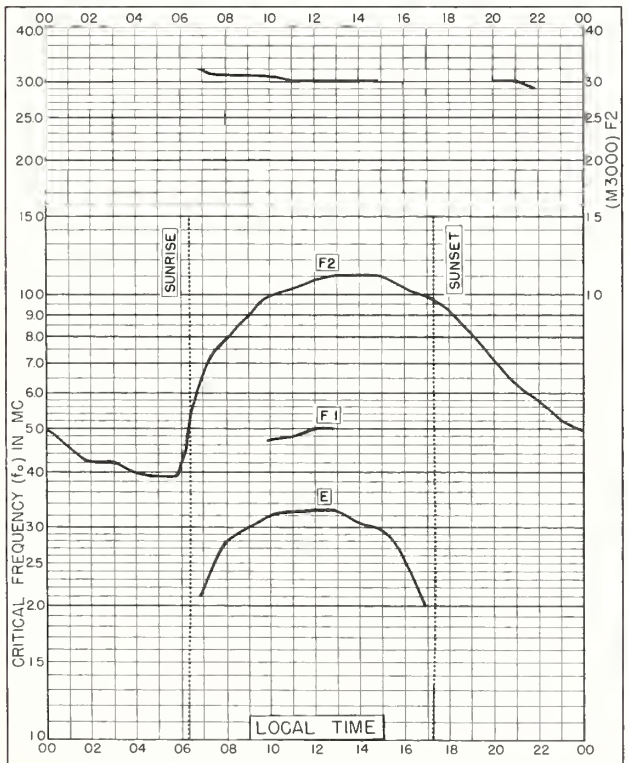


Fig. 91. OTTAWA, CANADA
45.4°N, 75.9°W OCTOBER 1959

NBS 503

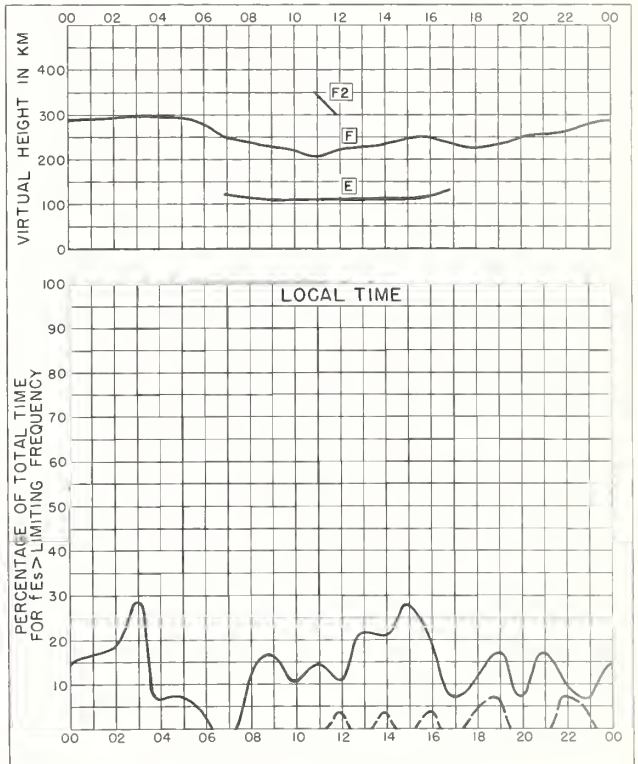


Fig. 92. OTTAWA, CANADA OCTOBER 1959

NBS 490

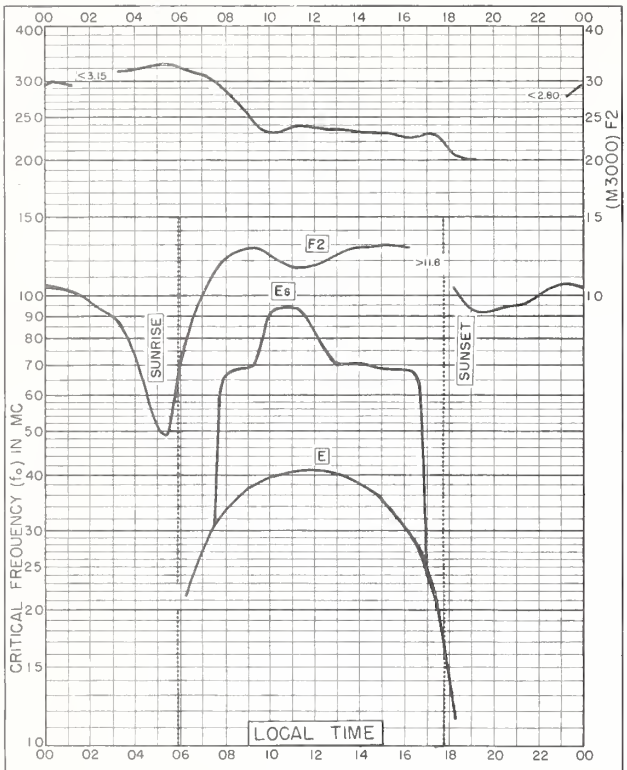


Fig. 93. IBADAN, NIGERIA
7.4°N, 3.9°E OCTOBER 1959

NBS 503

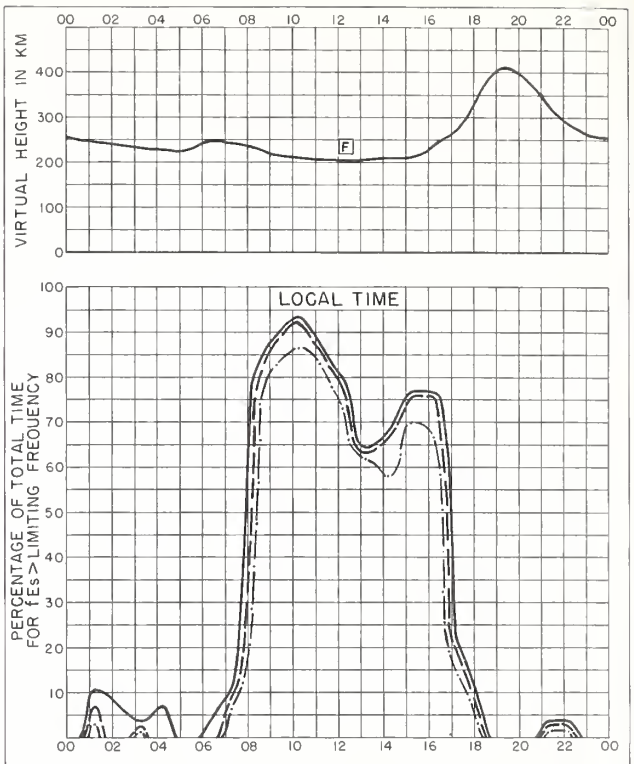


Fig. 94. IBADAN, NIGERIA OCTOBER 1959

NBS 490

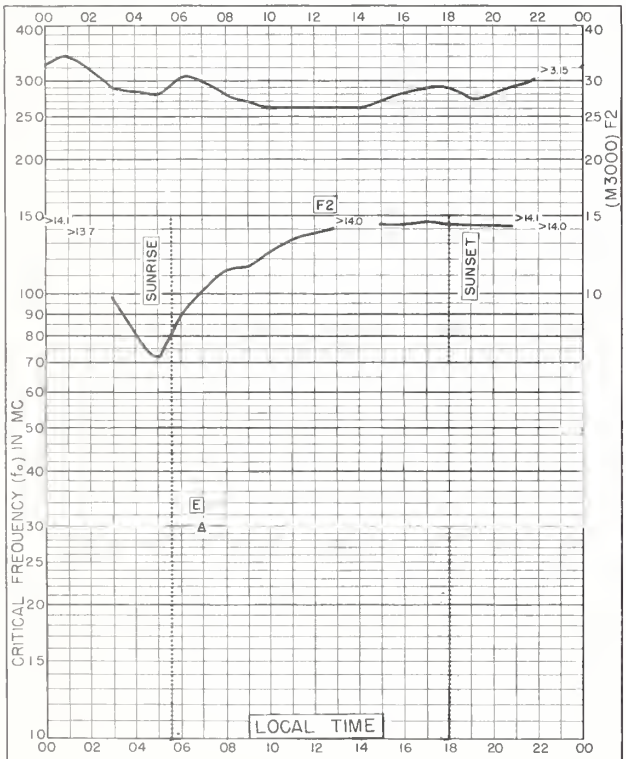


Fig. 95. SAO PAULO, BRAZIL
23.5°S, 46.5°W OCTOBER 1959

NBS 503

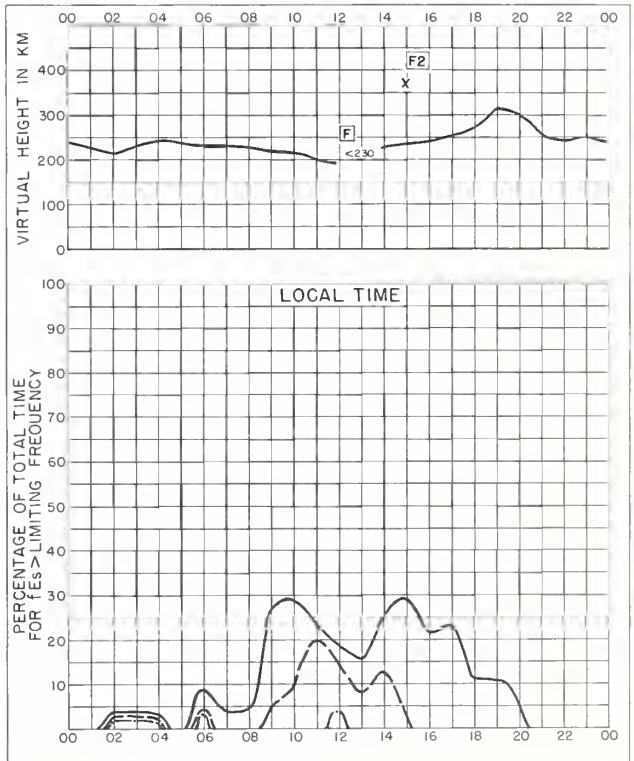


Fig. 96. SAO PAULO, BRAZIL OCTOBER 1959

NBS 490

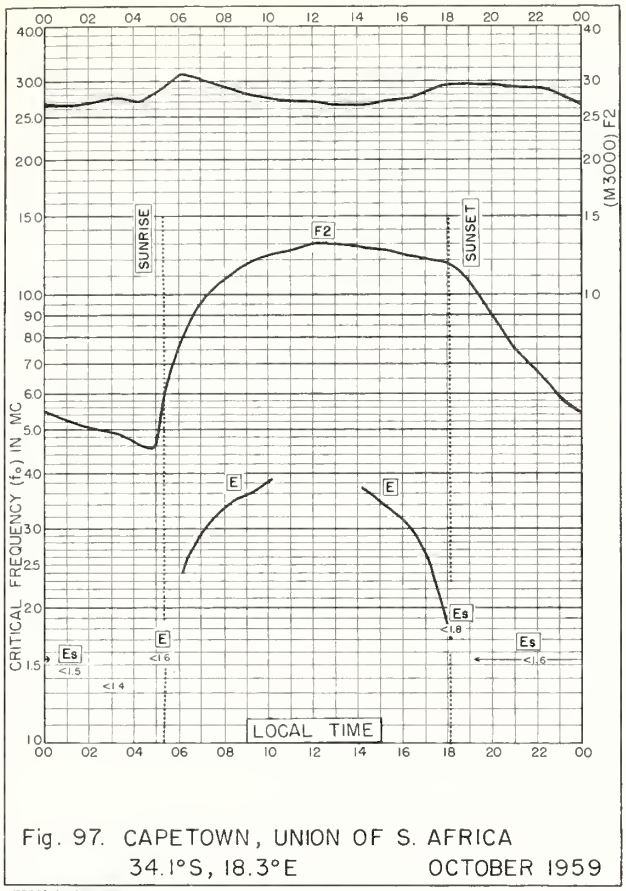
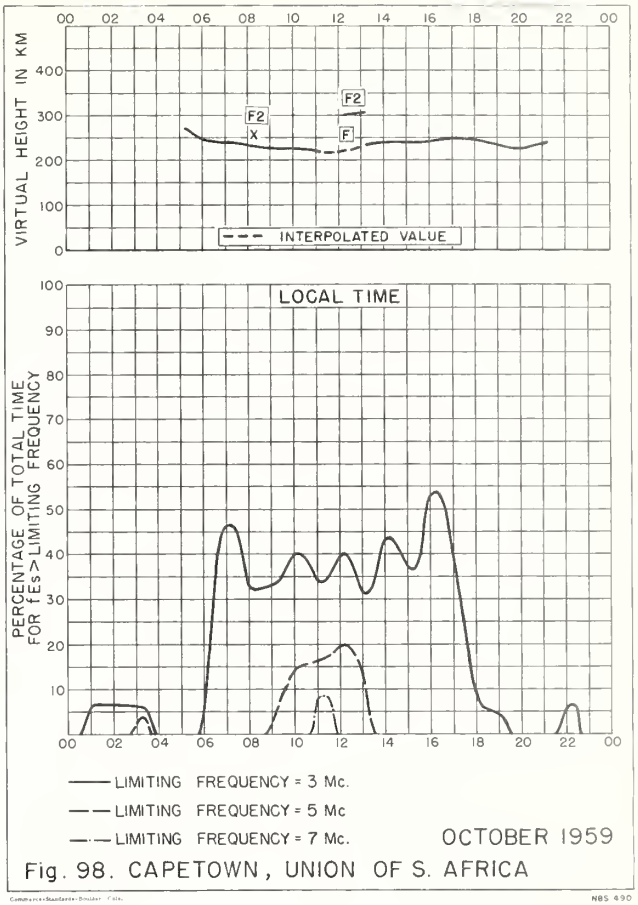


Fig. 97. CAPETOWN, UNION OF S. AFRICA
34.1°S, 18.3°E OCTOBER 1959

NBS 503



OCTOBER 1959

Fig. 98. CAPETOWN, UNION OF S. AFRICA

NBS 490

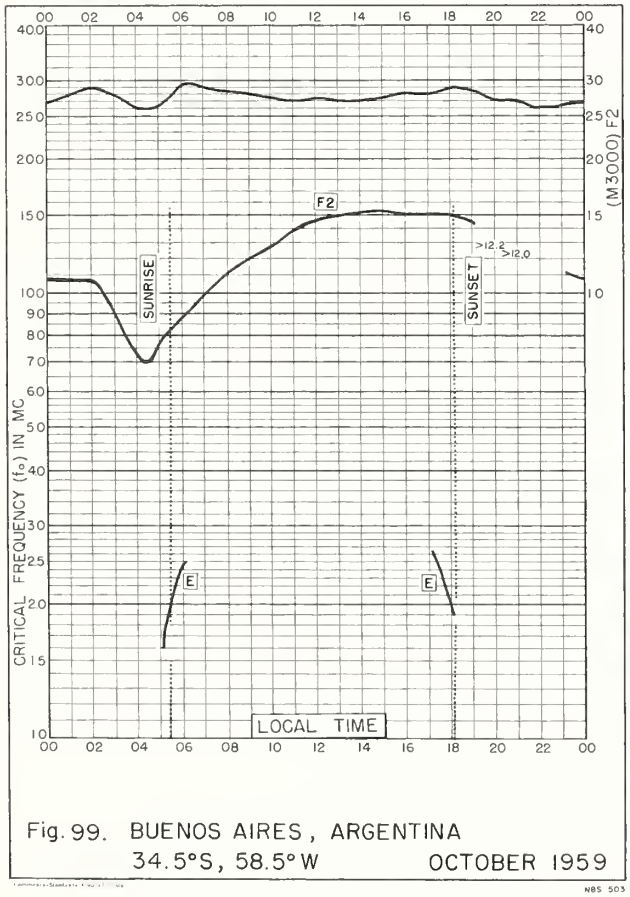
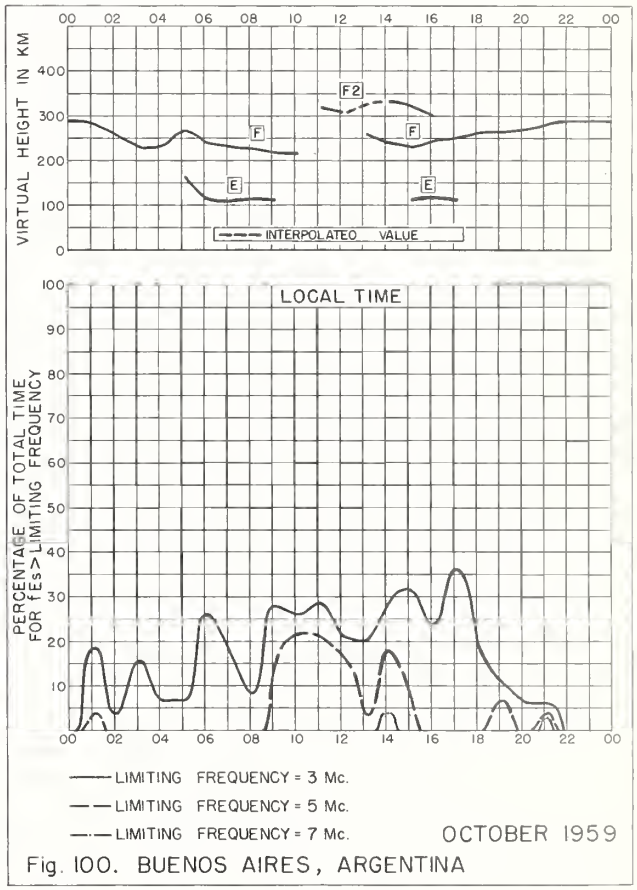


Fig. 99. BUENOS AIRES, ARGENTINA
34.5°S, 58.5°W OCTOBER 1959

NBS 503



OCTOBER 1959

Fig. 100. BUENOS AIRES, ARGENTINA

NBS 490

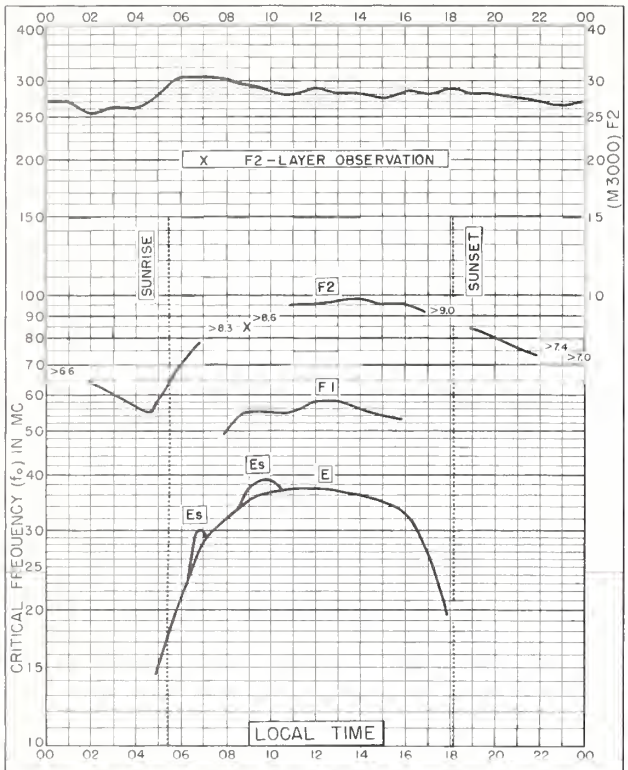


Fig. 101. CANBERRA, AUSTRALIA
35.3°S, 149.0°E OCTOBER 1959

NBS 503

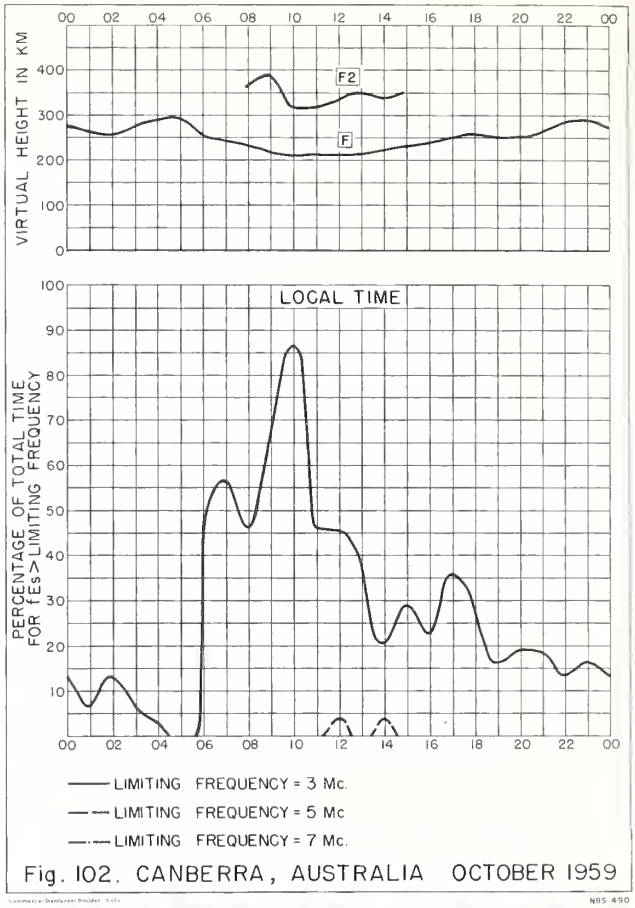


Fig. 102. CANBERRA, AUSTRALIA OCTOBER 1959

NBS 490

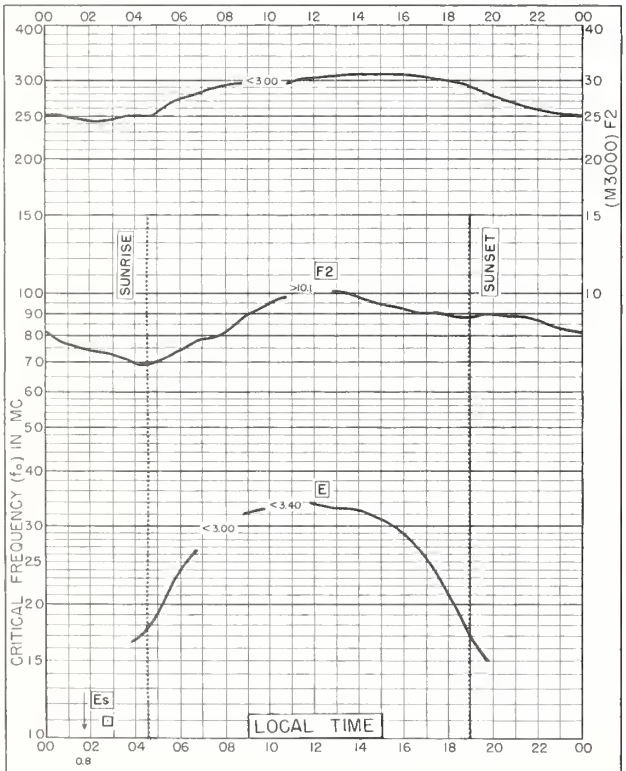


Fig. 103. PORT LOCKROY
64.8°S, 63.5°W OCTOBER 1959

NBS 503

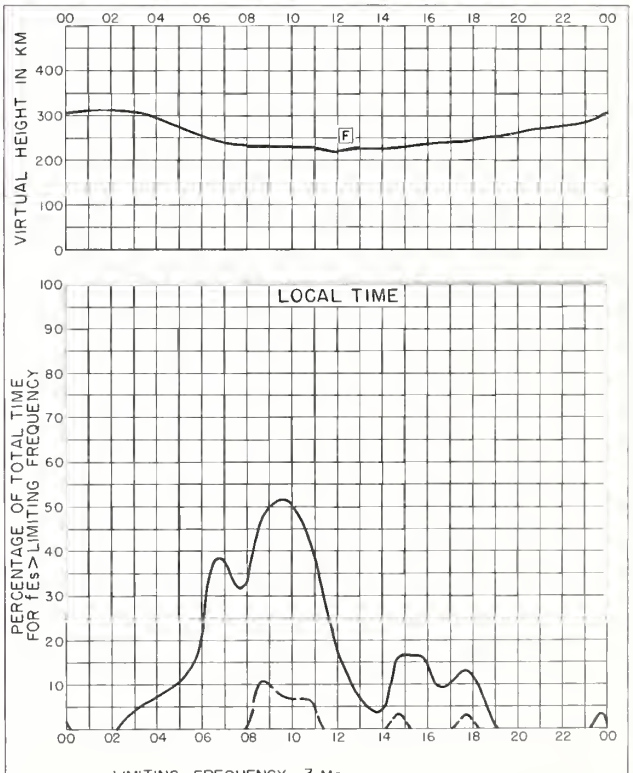


Fig. 104. PORT LOCKROY OCTOBER 1959

NBS 490

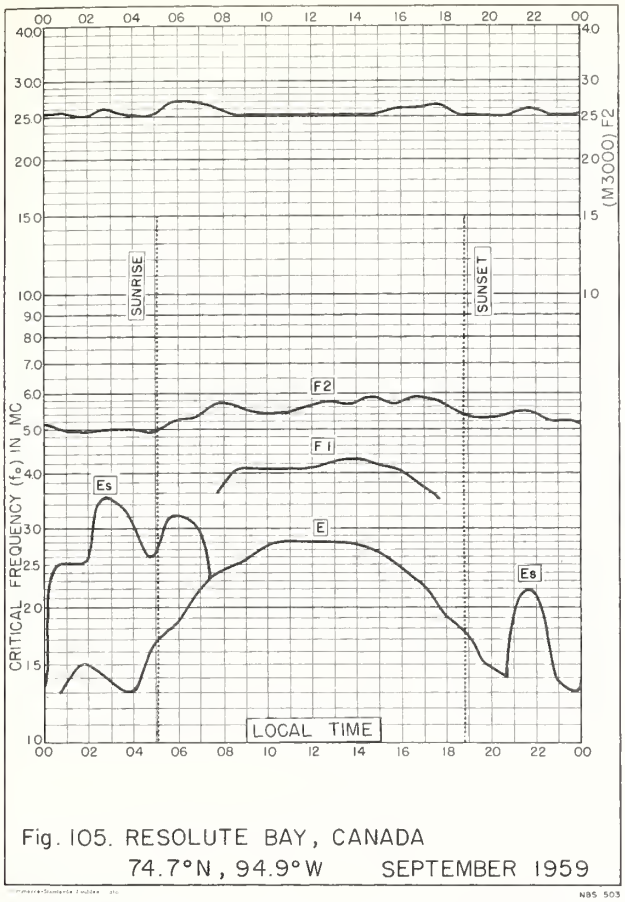


Fig. 105. RESOLUTE BAY, CANADA
74.7°N, 94.9°W SEPTEMBER 1959

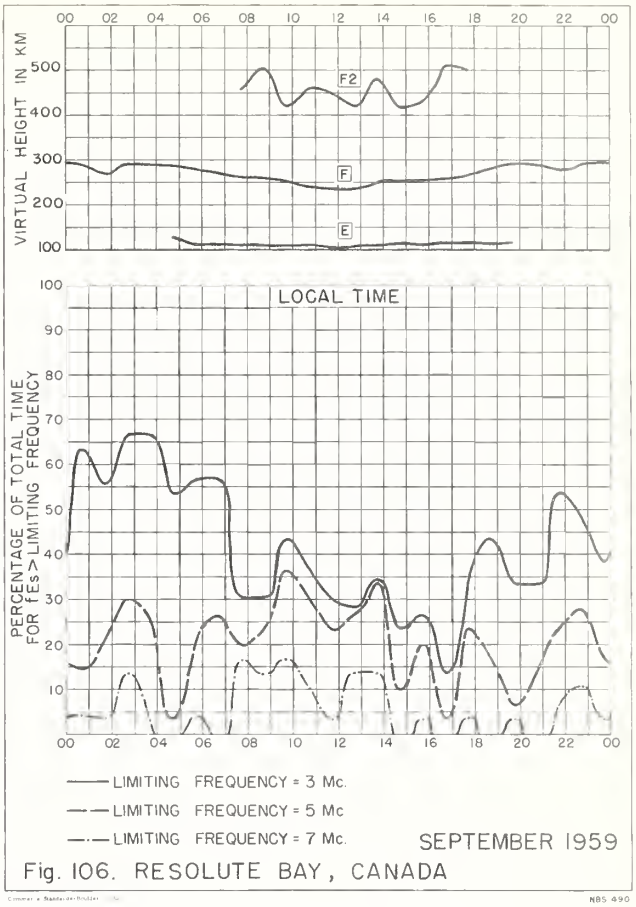


Fig. 106. RESOLUTE BAY, CANADA SEPTEMBER 1959

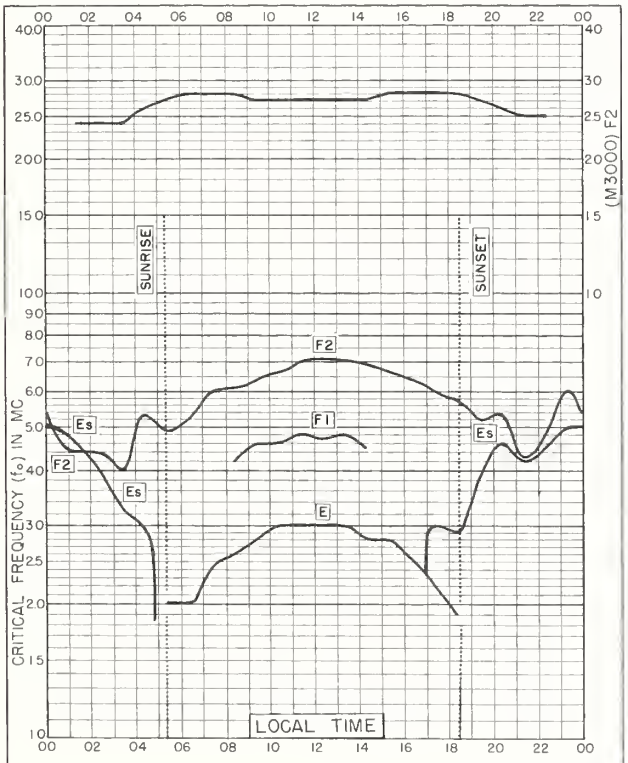


Fig. 107. KIRUNA, SWEDEN
67.8°N, 20.3°E SEPTEMBER 1959

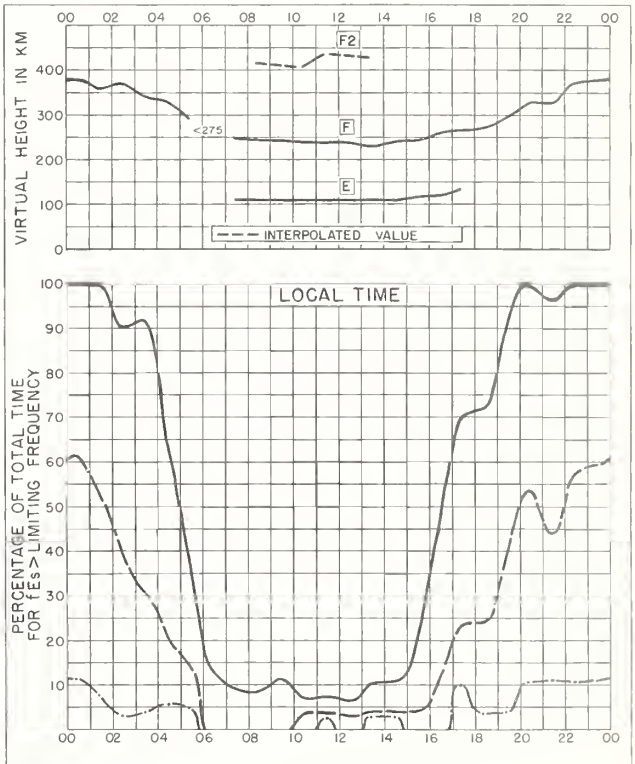


Fig. 108. KIRUNA, SWEDEN SEPTEMBER 1959

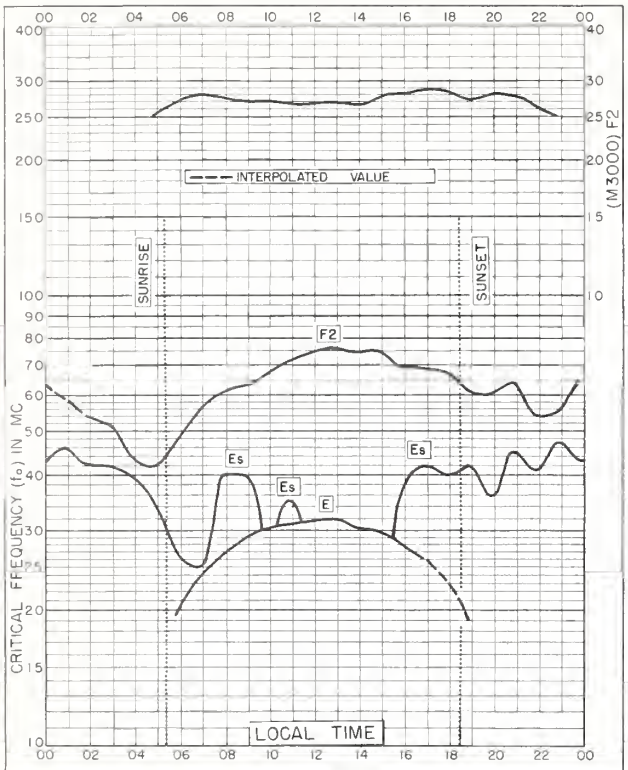


Fig. 109. SODANKYLA, FINLAND
67.4°N, 26.6°E SEPTEMBER 1959

NBS 503

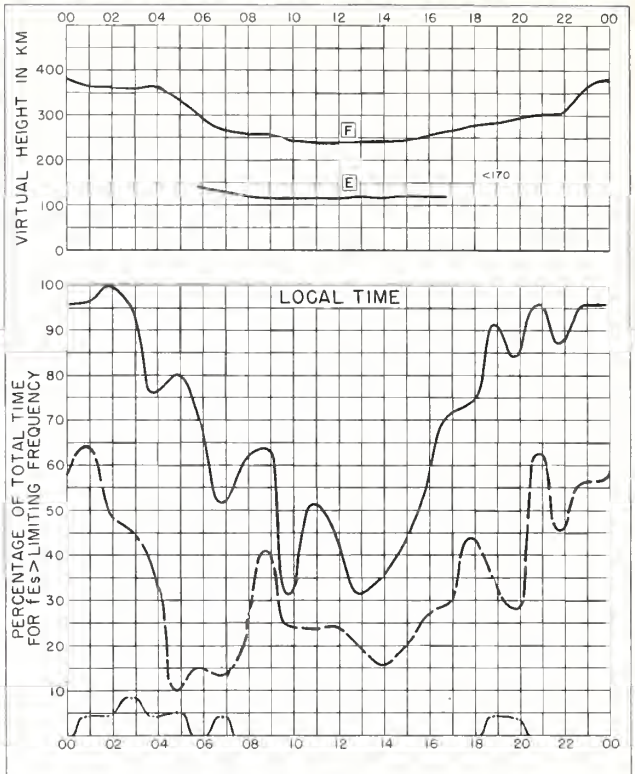


Fig. 110. SODANKYLA, FINLAND SEPTEMBER 1959

NBS 490

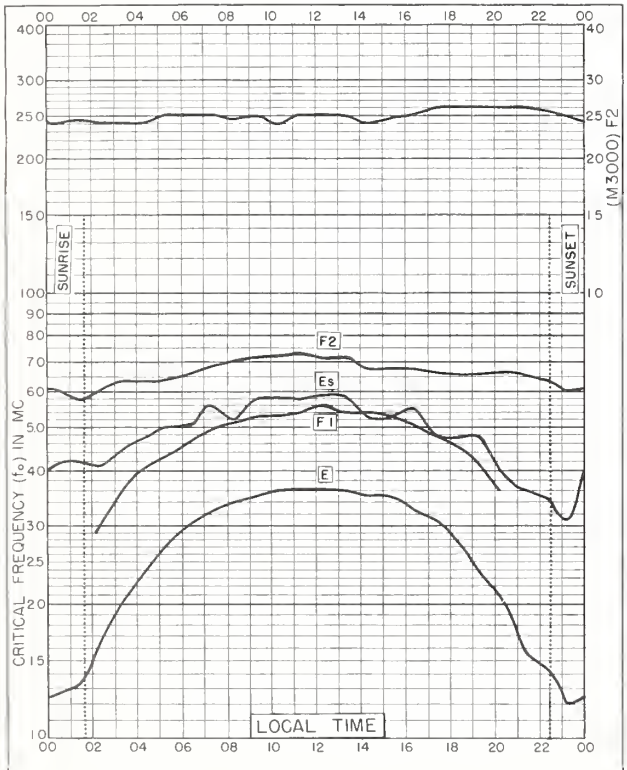


Fig. 111. LYCKSELE, SWEDEN
64.6°N, 18.8°E JUNE 1959

NBS 503

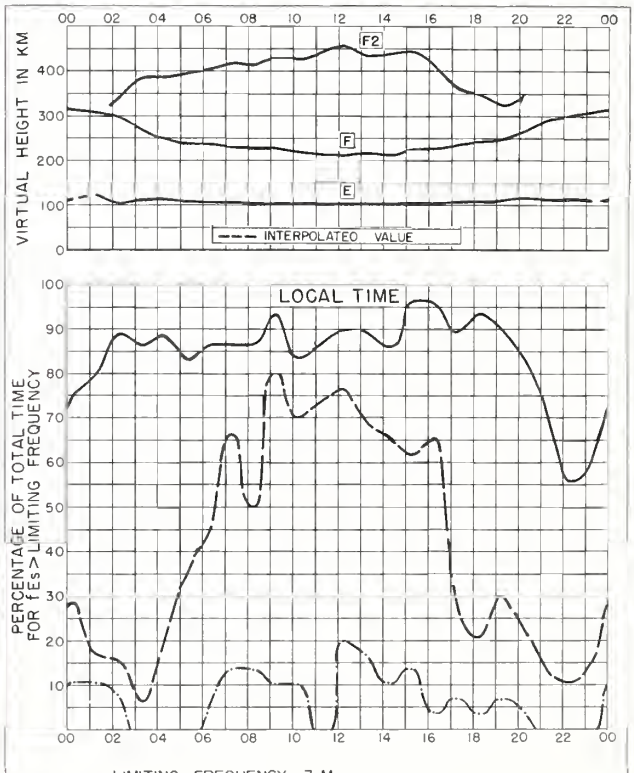


Fig. 112. LYCKSELE, SWEDEN JUNE 1959

NBS 490

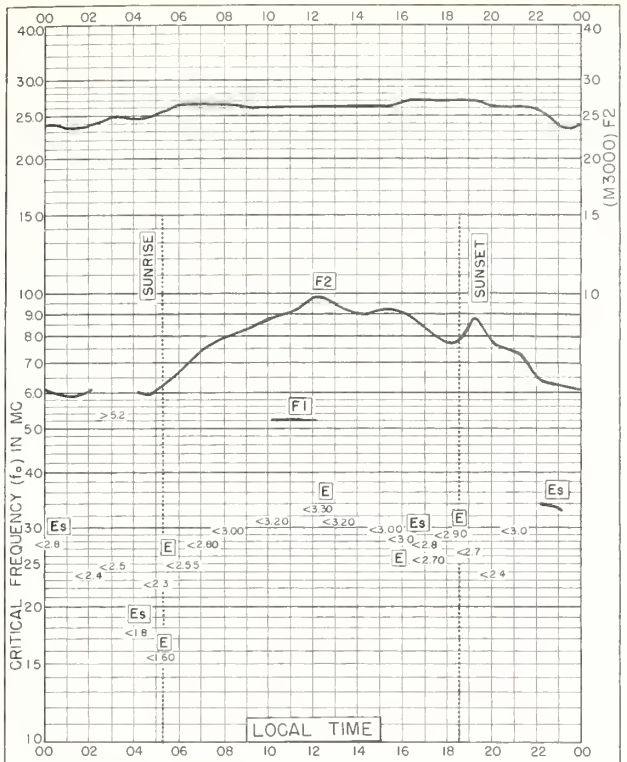


Fig. 113. MURMANSK, U.S.S.R.
69.0°N, 33.0°E SEPTEMBER 1958

NBS 503

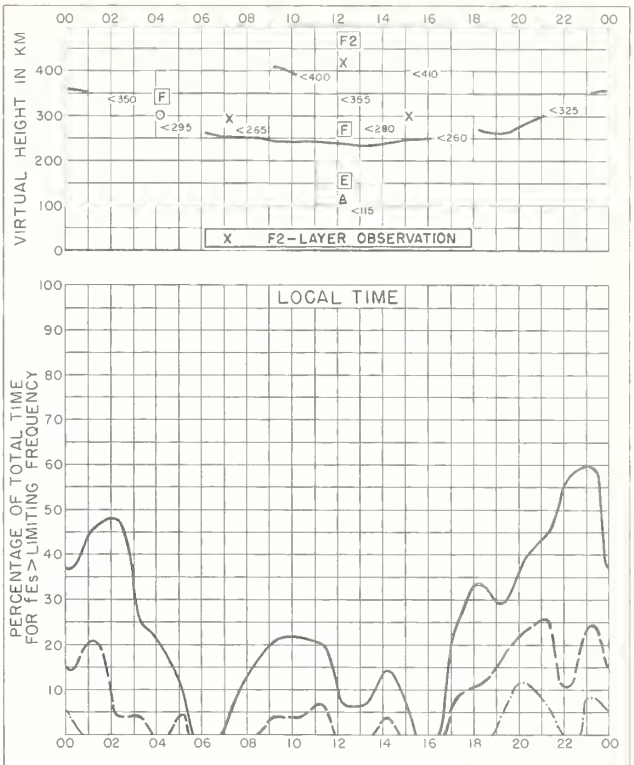


Fig. 114. MURMANSK, U.S.S.R. SEPTEMBER 1958

NBS 490

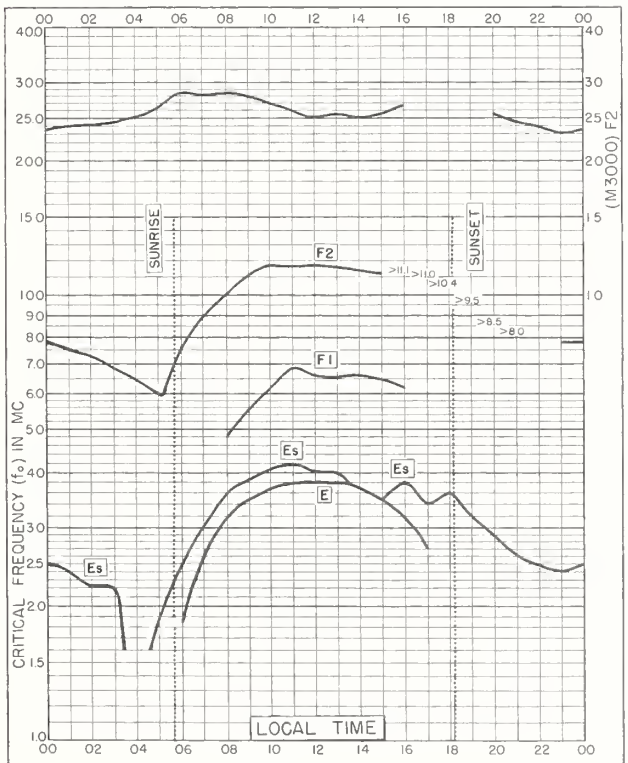


Fig. 115. POITIERS, FRANCE
46.6°N, 0.3°E SEPTEMBER 1958

NBS 503

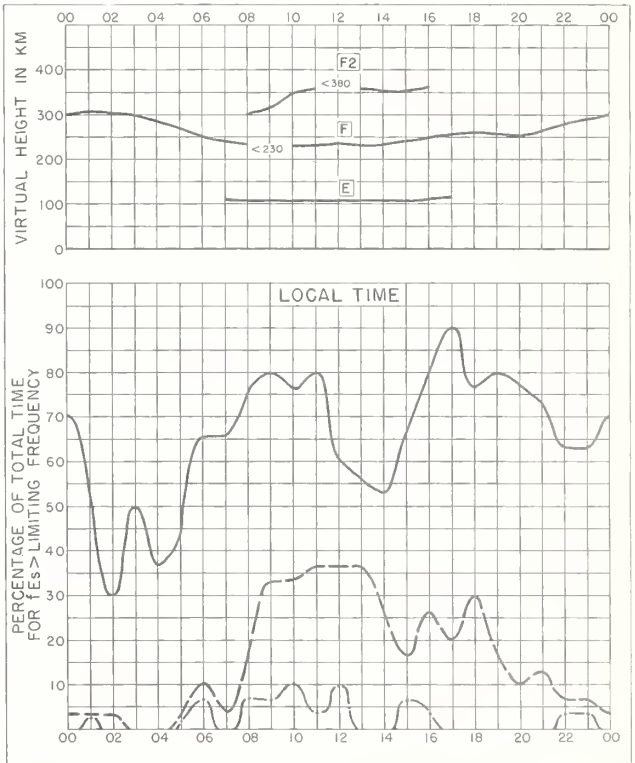


Fig. 116. POITIERS, FRANCE SEPTEMBER 1958

NBS 490

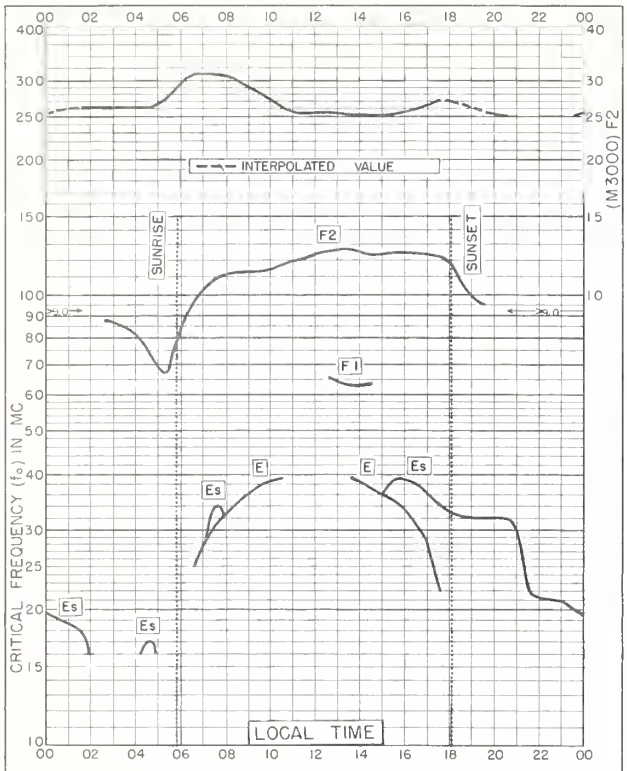


Fig. 117. RABAT, MOROCCO
30.9°N, 6.8°W SEPTEMBER 1958

NBS 503

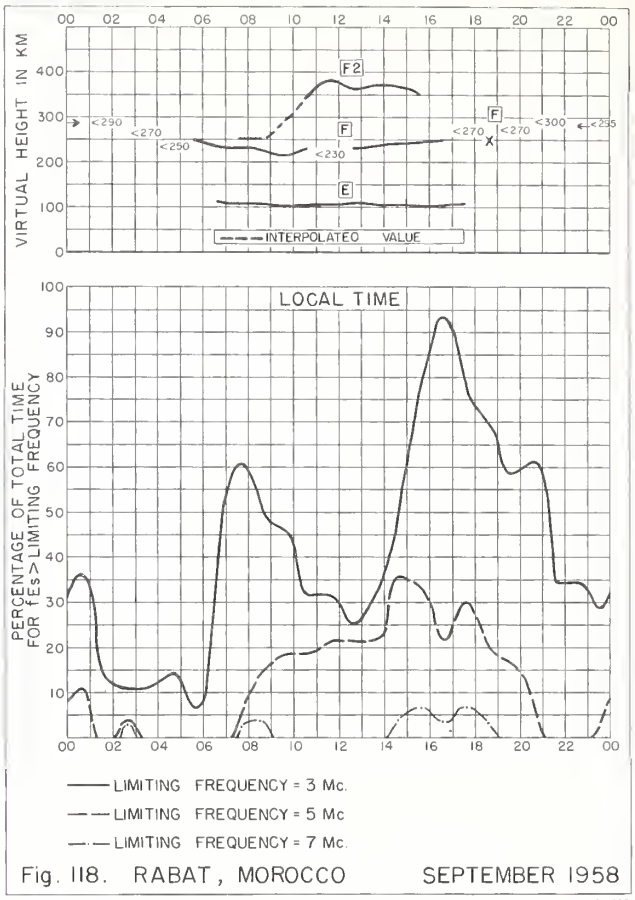


Fig. 118. RABAT, MOROCCO SEPTEMBER 1958

NBS 490

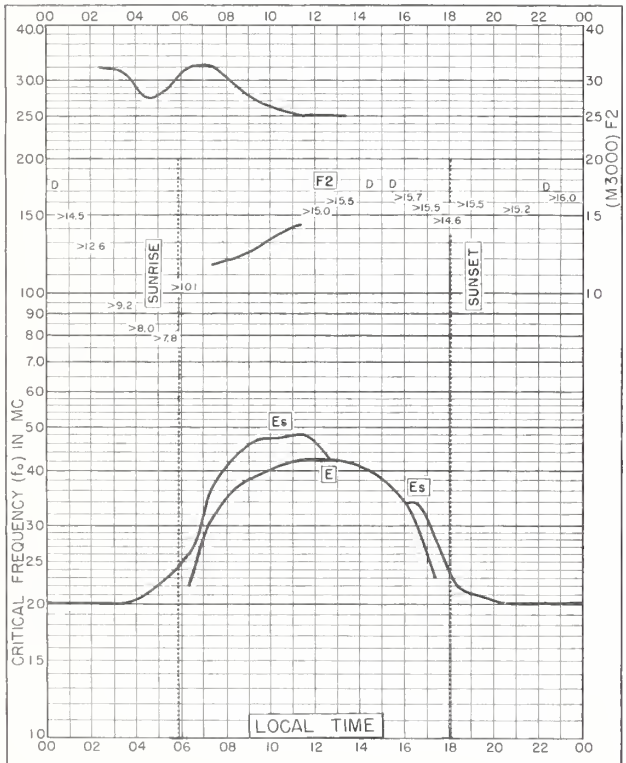


Fig. 119. TAMANRASSET, FRENCH W. AFRICA
22.8°N, 5.5°E SEPTEMBER 1958

NBS 503

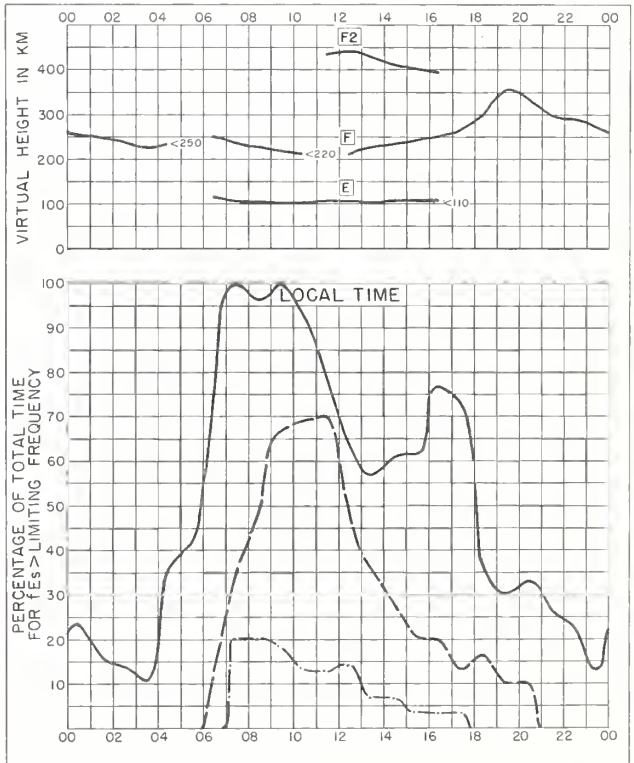


Fig. 120. TAMANRASSET, FRENCH W. AFRICA SEPTEMBER 1958

NBS 490

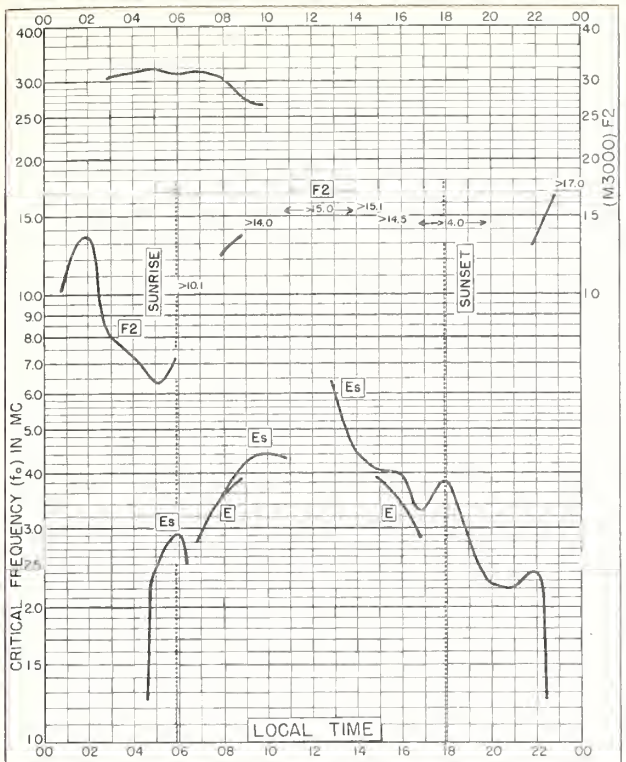
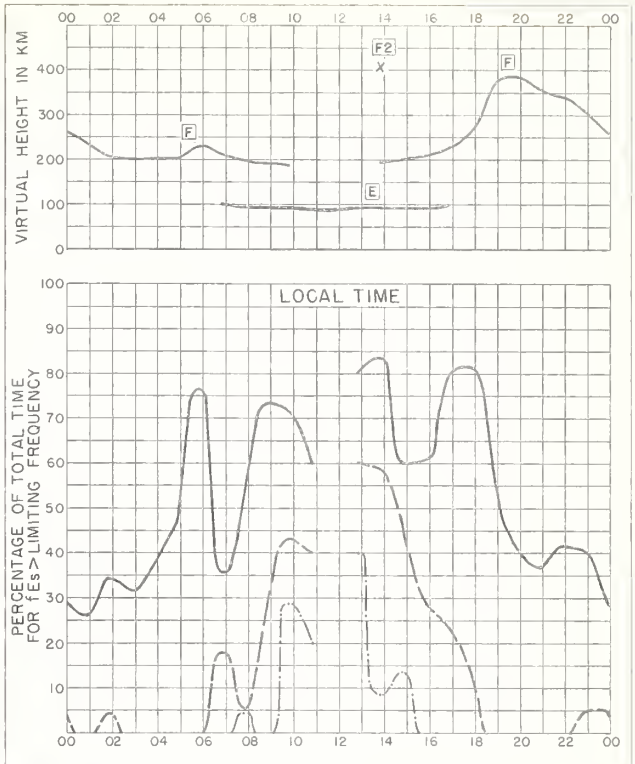


Fig. 121. DAKAR, FRENCH W. AFRICA
14.7°N, 17.4° W SEPTEMBER 1958

NBS 503



SEPTEMBER 1958

Fig. 122. DAKAR, FRENCH W. AFRICA

NBS 490

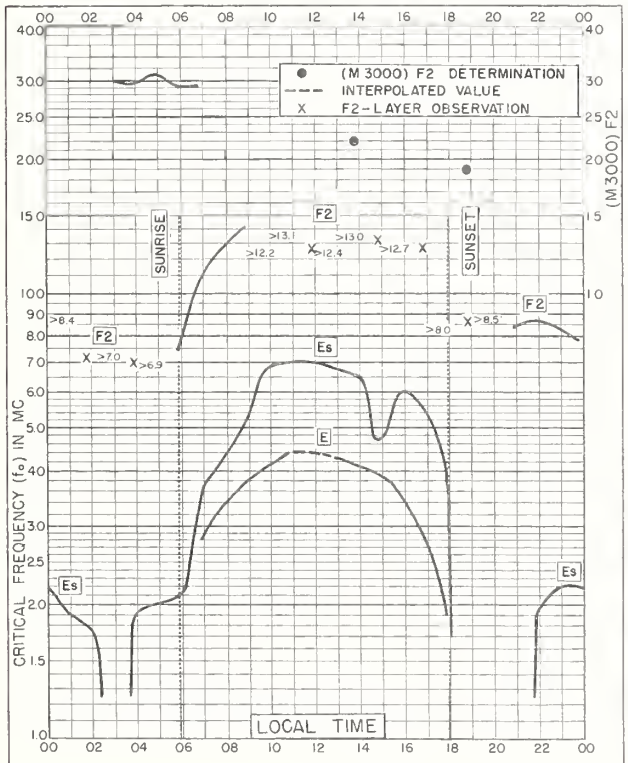
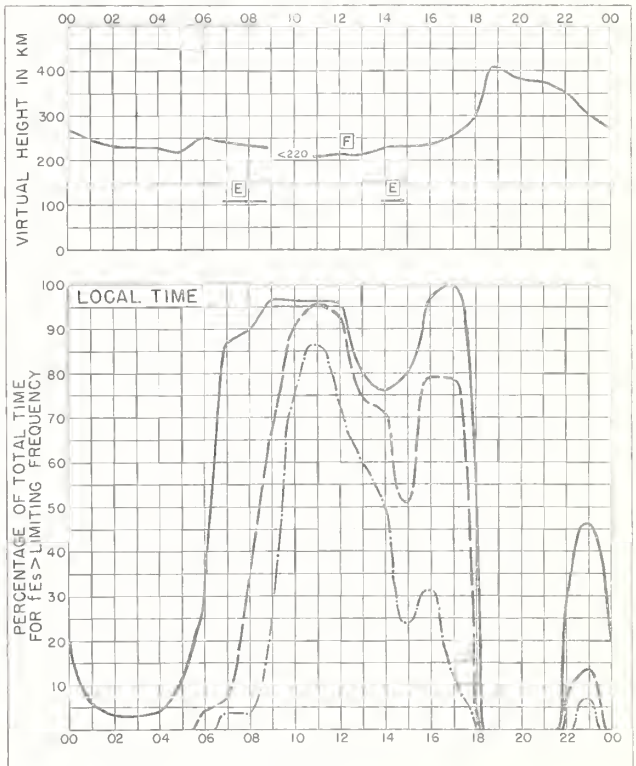


Fig. 123. DJIBOUTI, FRENCH SOMALILAND
11.6°N, 43.2°E SEPTEMBER 1958

NBS 503



SEPTEMBER 1958

Fig. 124. DJIBOUTI, FRENCH SOMALILAND

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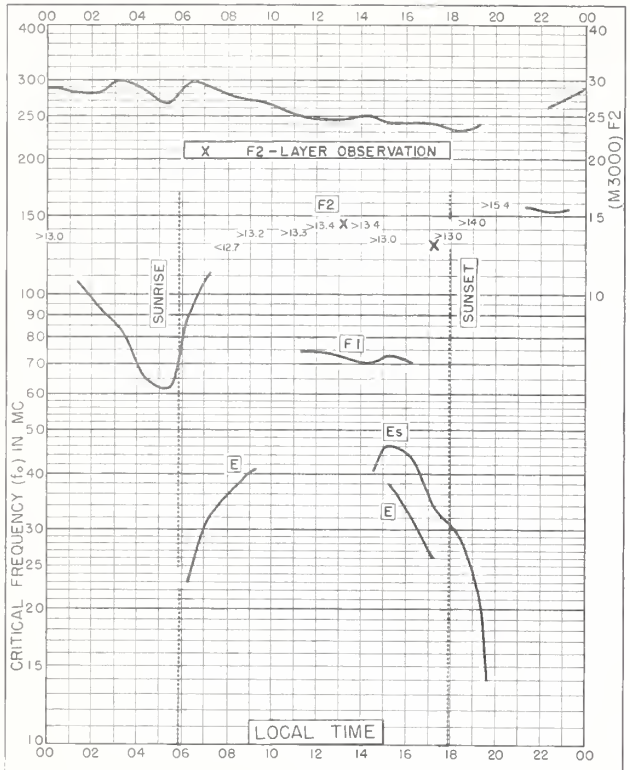
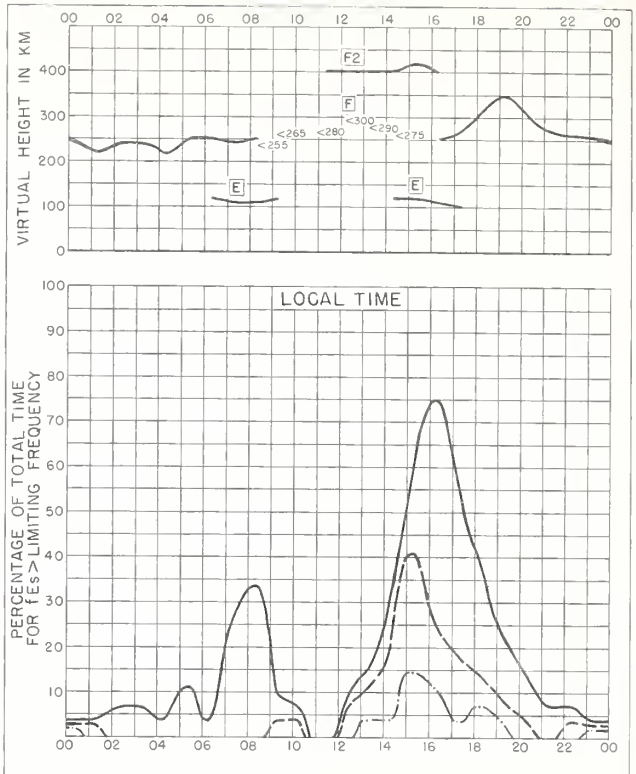


Fig. 125. PARAMARIBO, SURINAM
5.8°N, 55.2°W SEPTEMBER 1958



SEPTEMBER 1958

Fig. 126. PARAMARIBO, SURINAM

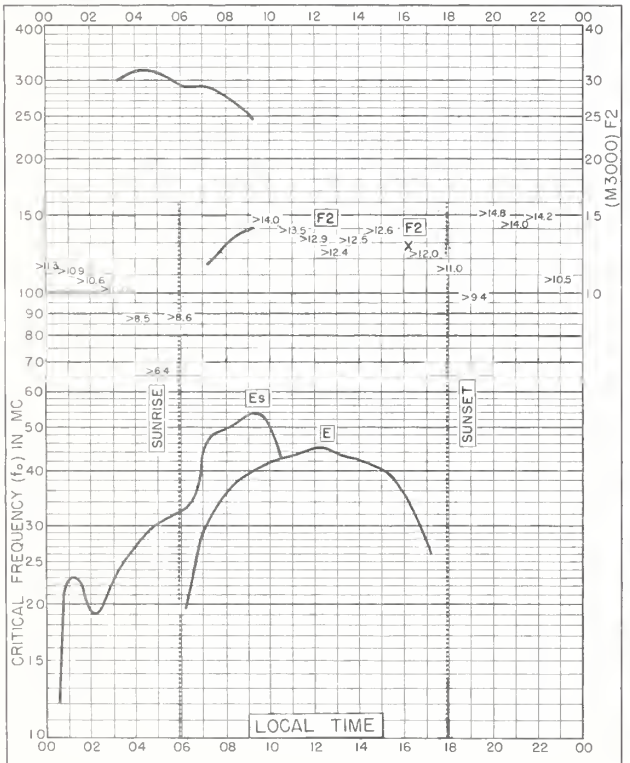
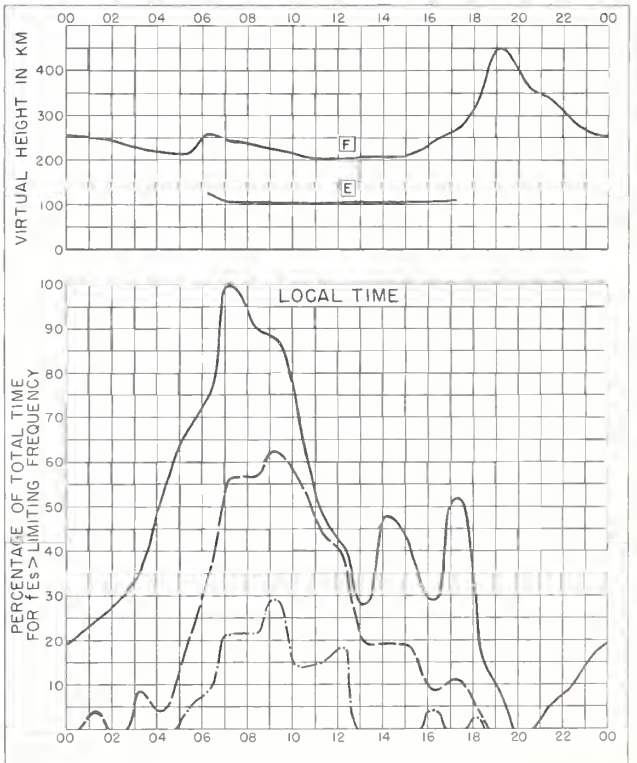


Fig. 127. BANGUI, FRENCH EQUATORIAL AFRICA
4.6°N, 18.6°E SEPTEMBER 1958



SEPTEMBER 1958

Fig. 128. BANGUI, FRENCH EQUATORIAL AFRICA

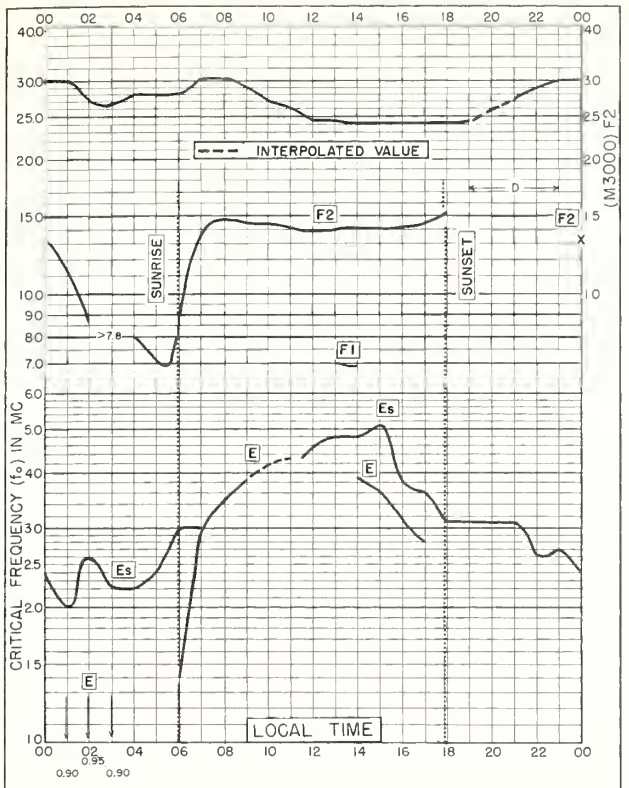


Fig. 129. TAHITI, SOCIETY IS.
17.7°S, 149.3°W SEPTEMBER 1958

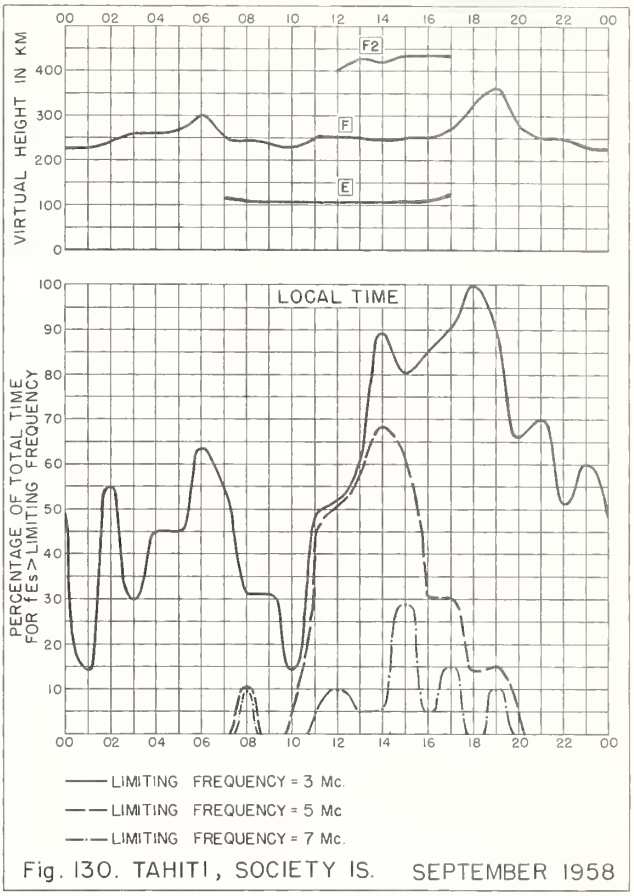


Fig. 130. TAHITI, SOCIETY IS. SEPTEMBER 1958

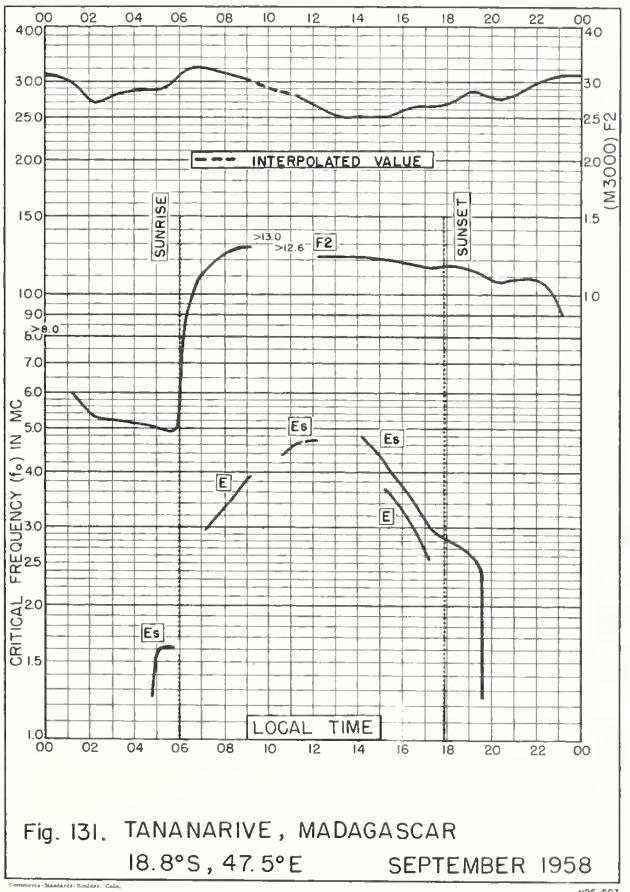


Fig. 131. TANANARIVE, MADAGASCAR
18.8°S, 47.5°E SEPTEMBER 1958

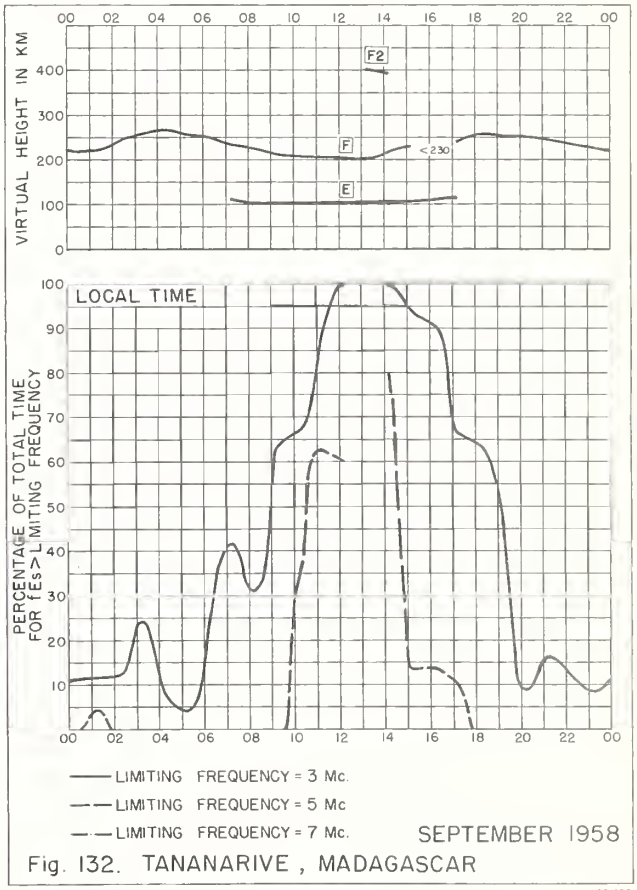


Fig. 132. TANANARIVE, MADAGASCAR SEPTEMBER 1958

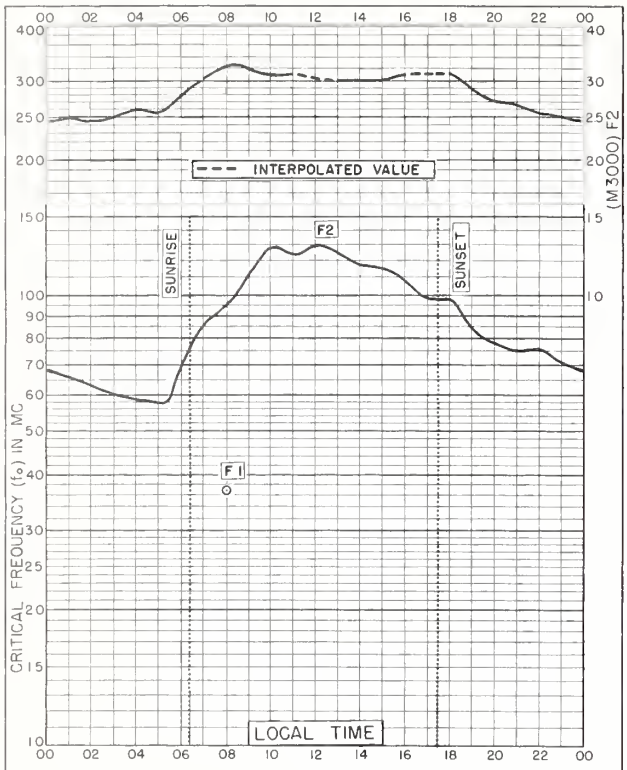


Fig. 133. DECEPCION I.
63.0°S, 60.7°W SEPTEMBER 1958

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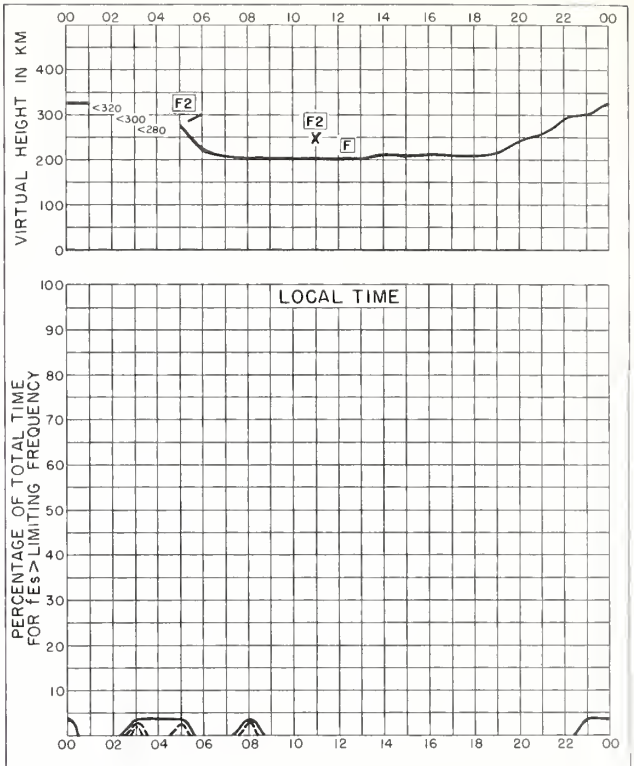

Fig. 134. DECEPCION I. SEPTEMBER 1958

NBS 490

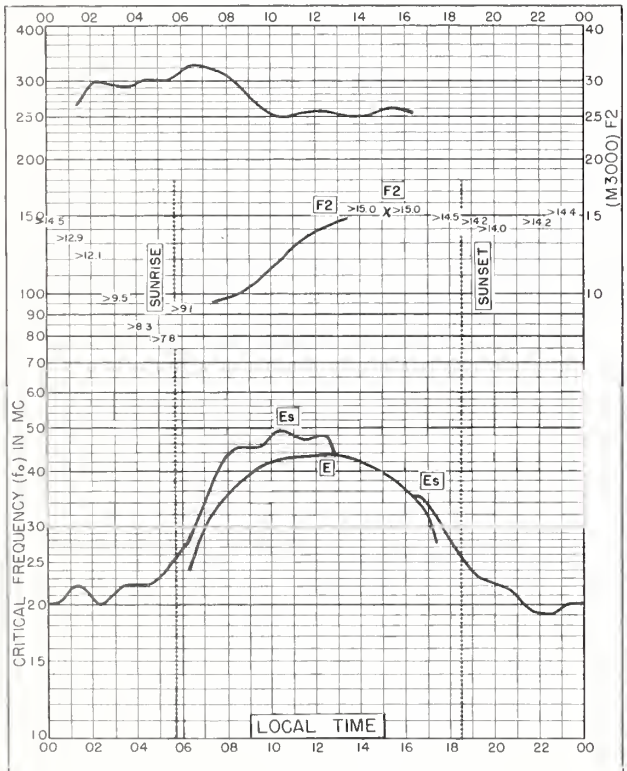

Fig. 135. TAMANRASSET, FRENCH W. AFRICA
22.8°N, 5.5°E AUGUST 1958

NBS 503

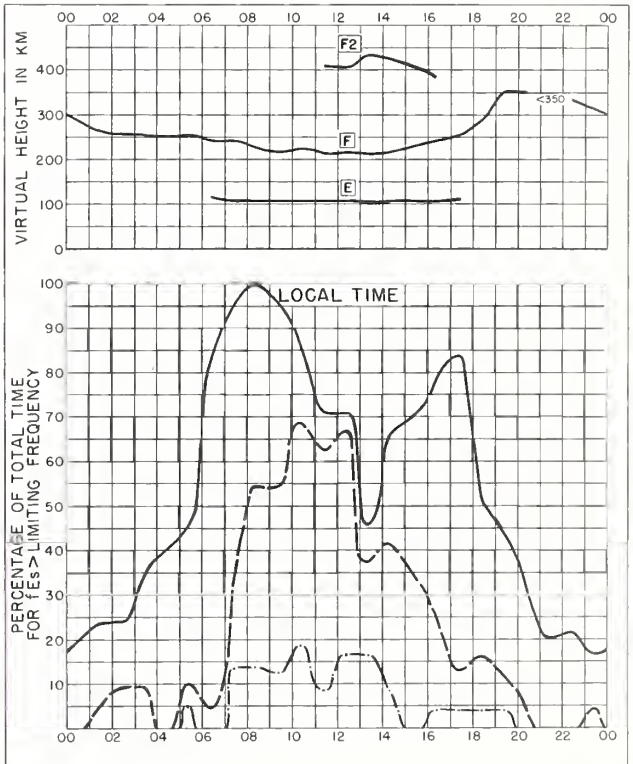

Fig. 136. TAMANRASSET, FRENCH W. AFRICA AUGUST 1958

NBS 490

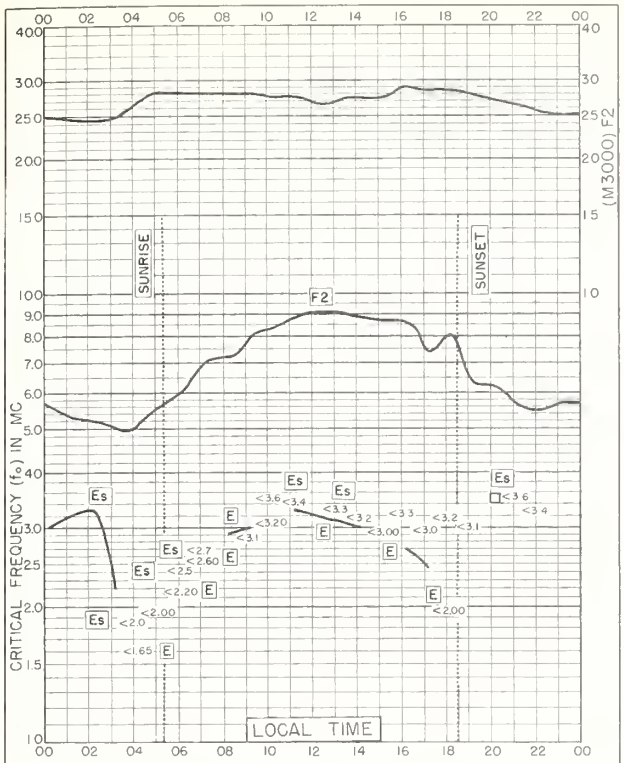

Fig. 137. MURMANSK, U.S.S.R.
69.0°N, 33.0°E SEPTEMBER 1957

NBS 503

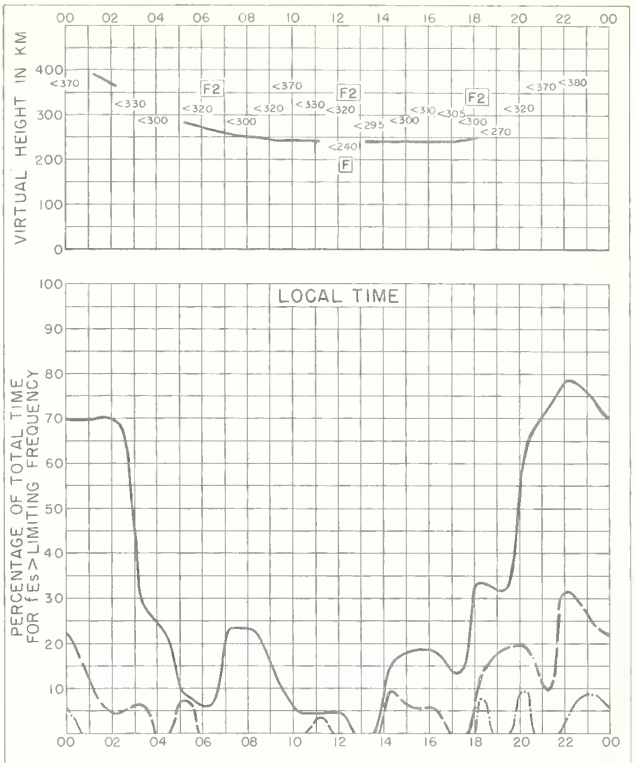

Fig 138. MURMANSK, U.S.S.R. SEPTEMBER 1957

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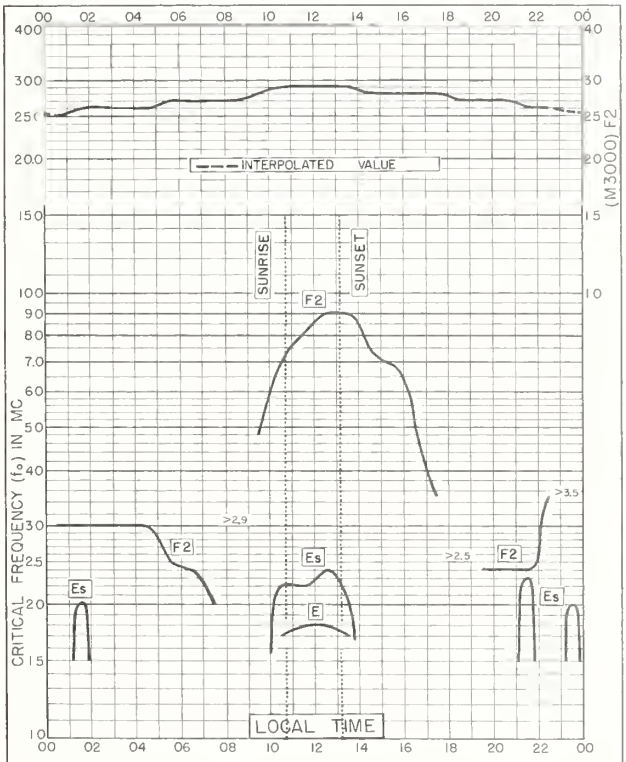

Fig. 139. LULEA, SWEDEN
65.6°N, 22.1°E DECEMBER 1955

NBS 503

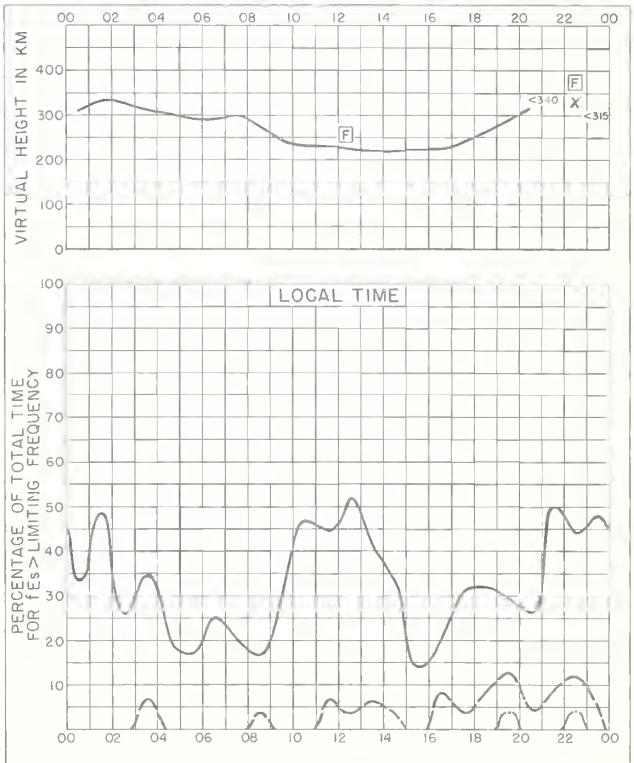

Fig. 140. LULEA, SWEDEN DECEMBER 1955

NBS 490

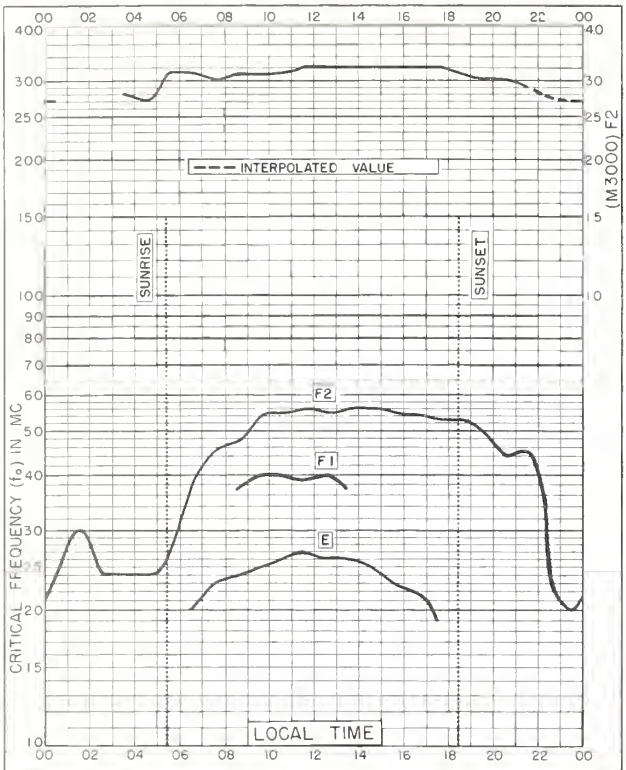

Fig. 141. LULEA, SWEDEN
65.6°N, 22.1°E SEPTEMBER 1955

NBS 503

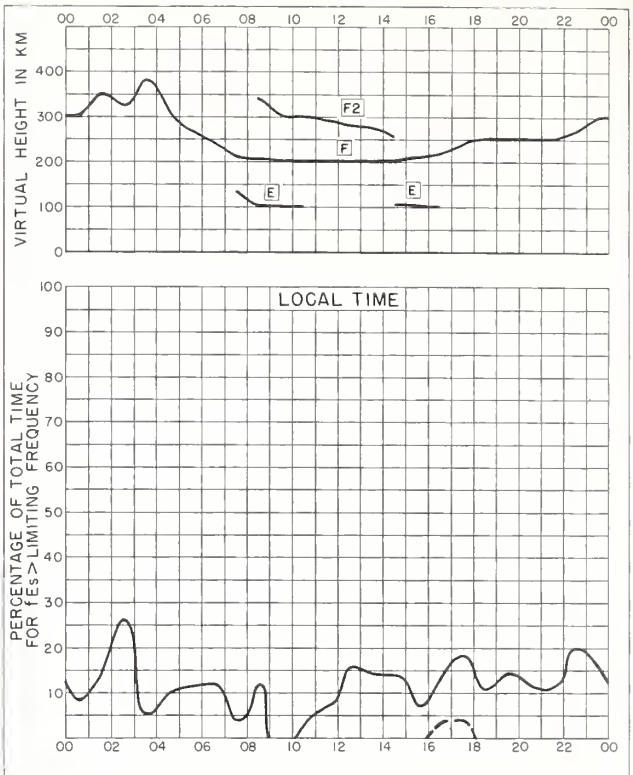

Fig. 142. LULEA, SWEDEN SEPTEMBER 1955

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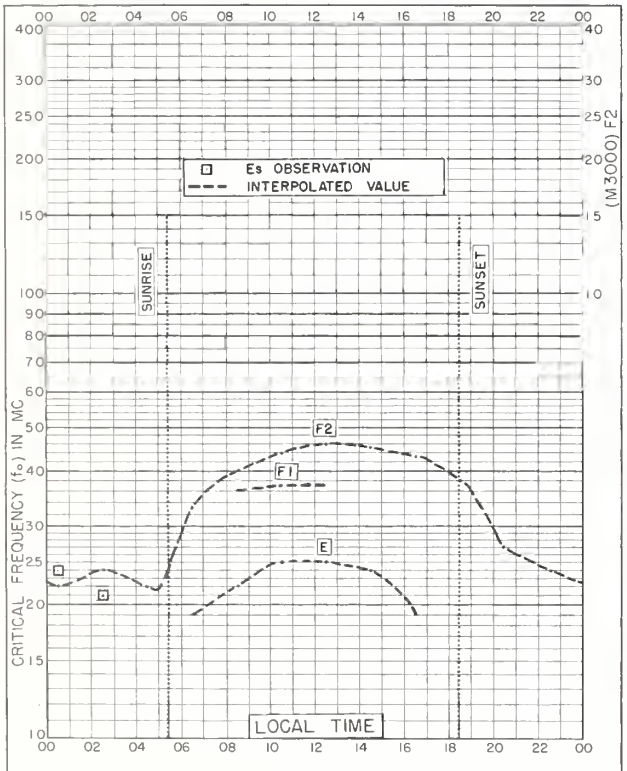

Fig. 143. LULEA, SWEDEN
65.6°N, 22.1°E SEPTEMBER 1954

NBS 503

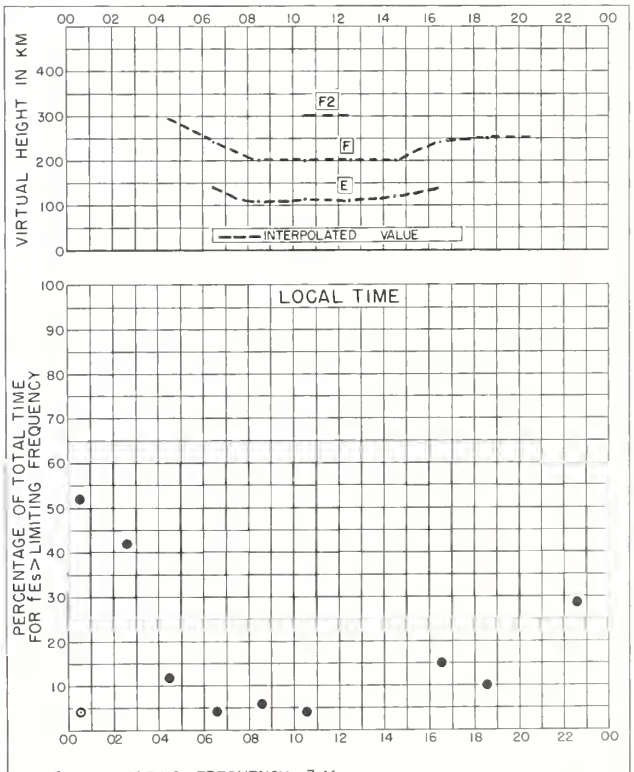

Fig. 144. LULEA, SWEDEN SEPTEMBER 1954

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Index (CRPL-F201 (Part A), continued)

Index (CRPL-F201 (Part A), concluded)

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[A detailed list of CRPL publications is available from the Central Radio Propagation Laboratory upon request]

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Radio disturbance forecasts, every half hour from broadcast stations WWV and WWVH of the National Bureau of Standards.

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CRPL—J. North Atlantic Radio Propagation Forecast.

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CRPL—Ja. Semimonthly Frequency Revision Factors For CRPL Basic Radio Propagation Prediction Reports.

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CRPL—F. (Part A). Ionospheric Data.
(Part B). Solar-Geophysical Data.
Limited distribution. These publications are in general disseminated only to those individuals or scientific organizations which collaborate in the exchange of ionospheric, solar, geomagnetic, or other radio propagation data.

Catalog of Data:

A catalog of records and data on file at the U. S. IGY World Data Center A for Airglow and Ionosphere, Boulder Laboratories, National Bureau of Standards, which includes a fee schedule to cover the cost of supplying copies, is available upon request.

The publications listed above may be obtained without charge from the Central Radio Propagation Laboratory, National Bureau of Standards, Boulder Laboratories, Boulder, Colorado, unless otherwise indicated. Please note that the F series is not generally available.

Circulars of the National Bureau of Standards pertaining to Radio Sky Wave Transmission:

NBS Circular 462. Ionospheric Radio Propagation. $1.25.

NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions. 30 cents.

NBS Circular 557. Worldwide Radio Noise Levels Expected in the Frequency Band 10 Kilocycles to 100 megacycles. 30 cents.

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NBS Tech. Note 2. PB151361. World Maps of F2 Critical Frequencies and Maximum Usable Frequency Factors. $3.50. PB151361–2. $3.50.

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